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# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No. 437312000400

Total Pages 145

First Named Inventor or Application Identifier

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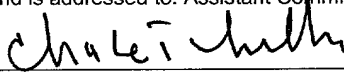
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### APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents

1. ☒ Fee Transmittal Form [Total Pages  ]  
(Submit an original, and a duplicate for fee processing)
2. ☒ Specification [Total Pages  ]  
(preferred arrangement set forth below)
  - Descriptive title of the Invention
  - Cross References to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to Microfiche Appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
3. ☒ Drawing(s) (35 USC 113) [Total Sheets  ]
4. ☒ Oath or Declaration [Total Pages  ]
  - a. ☐ Newly executed (original or copy)
  - b. ☐ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 17 completed)  
[Note Box 5 below]
  - i. ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b)
5. ☐ Incorporation By Reference (useable if Box 4b is checked)  
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

ADDRESS TO: Assistant Commissioner for Patents  
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Washington, DC 20231

6. ☐ Microfiche Computer Program (Appendix)
7. Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)
  - a. ☐ Computer Readable Copy
  - b. ☐ Paper Copy (identical to computer copy)
  - c. ☐ Statement verifying identity of above copies

### ACCOMPANYING APPLICATION PARTS

8. ☒ Assignment Papers (cover sheet & document) (2 pages)
9. ☒ 37 CFR 3.73(b) Statement ☒ Power of Attorney  
w/copy of Assignment (2 pages) (2 pages)
10. ☐ English Translation Document (if applicable)
11. ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
12. ☐ Preliminary Amendment
13. ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
14. ☒ Small Entity Statement(s) (1 page)
15. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed)
16. ☒ Title page (1 page) .....

17. If a CONTINUING APPLICATION, check appropriate box and supply the requisite information:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No:

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- ☒ If a paper is untimely filed in the above-referenced application by applicant or his/her representative, the Assistant Commissioner is hereby petitioned under 37 C.F.R. § 1.136(a) for the minimum extension of time required to make said paper timely. In the event a petition for extension of time is made under the provisions of this paragraph, the Assistant Commissioner is hereby requested to charge any fee required under 37 C.F.R. § 1.17(a)-(d) to **Deposit Account No. 03-1952**. However, the Assistant Commissioner is **NOT** authorized to charge the cost of the issue fee to the Deposit Account.

The filing fee has been calculated as follows:

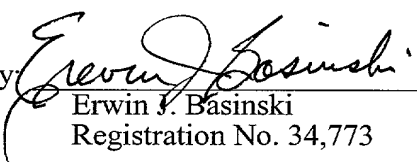
FOR	NUMBER FILED	NUMBER EXTRA	RATE	CALCULATIONS
TOTAL CLAIMS	17 - 20 =	- 0 -	x \$18.00	\$0.00
INDEPENDENT CLAIMS	5 - 3 =	- 2 -	x \$78.00	\$156.00
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$260.00	\$0.00
			BASIC FEE	\$690.00
TOTAL OF ABOVE CALCULATIONS =				\$846.00
Reduction by 1/2 for filing by small entity (Note 37 C.F.R. §§ 1.9, 1.27, 1.28). If applicable, verified statement must be attached.				\$423.00
Assignment Recording Fee (if enclosed)				\$40.00
TOTAL =				\$463.00

- ☒ A check in the amount of \$463.00 is attached.

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Dated: August 24, 2000

Respectfully submitted,

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UNITED STATES PATENT APPLICATION

FOR

**A METHOD AND APPARATUS FOR A MORTGAGE LOAN  
ORIGINATOR COMPLIANCE ENGINE**

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# A METHOD AND APPARATUS FOR A MORTGAGE LOAN ORIGINATOR COMPLIANCE ENGINE

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## RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application No. 60/189,635 filed March 14, 2000. This application is also related to the following utility applications which are filed on the same day as this application:

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Serial No. \_\_\_\_\_ Filed \_\_\_\_\_, titled "A method and apparatus for a mortgage loan origination gateway";

Serial No. \_\_\_\_\_ Filed \_\_\_\_\_, titled "A method and apparatus for verification of a qualified mortgage loan originator";

15

Serial No. \_\_\_\_\_ Filed \_\_\_\_\_, titled "Method and Apparatus for a Mortgage Loan Management System";

Serial No. \_\_\_\_\_ Filed \_\_\_\_\_, titled "A method and apparatus for a mortgage loan task flow process";

Serial No. \_\_\_\_\_ Filed \_\_\_\_\_, titled "A method and apparatus for a mortgage loan process interaction gateway";

20

Serial No. \_\_\_\_\_ Filed \_\_\_\_\_, titled "A method and apparatus for a mortgage loan transaction service provider gateway";

Serial No. \_\_\_\_\_ Filed \_\_\_\_\_, titled "A method and apparatus for worker compensation & task performance reporting in a mortgage loan transaction system".

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### TECHNICAL FIELD

The present invention relates to the general field of computers, telecommunications, and computer and Internet related systems. More specifically the invention relates to systems and processes to be used in the mortgage industry for generating and monitoring a set of required procedures involved in moving a mortgage loan through the steps of 'originate', 'approve', 'close', 'fund', and 'ship'.

### BACKGROUND

There is a need for an automated system for managing the processing of mortgage loan applications, wherein the identification of the loan originator, his/her location and the location of the property which is the subject of the loan, determine the Federal and State mortgage loan laws and regulations as well as the professional guidelines which govern the loan transaction, and wherein the automated system uses the specific loan regulations to determine the tasks required to complete a loan transaction, including tasks required by applicably federal or state law, provide the set of required tasks to lenders and other interested parties, record the completion of the set of tasks, and if requested by a lender, to use the set of tasks internally to drive the flow of the automated mortgage loan process to completion.

The Federal laws and regulations in question are basically those outlined in the Real Estate Settlement Procedures Act (RESPA) and the Federal Housing and Urban Development's (HUD's) implementing Regulation X. The State regulations in question are those State specific regulations and implementing instructions that serve a similar purpose, relating to Lender payments to Mortgage Brokers and other settlement service providers. RESPA is the federal law implemented by HUD's Regulation X, to protect home buyers from excess costs and confusion when securing a home mortgage loan. Among other federal laws, the Truth in Lending Act ("TILA") and the Equal Credit Opportunity Act ("ECOA") impact the mortgage loan process. Under the TILA, certain credit

related disclosures are required to be made to the borrower prior to the consummation of a mortgage loan transaction, so that the borrower understands the total cost of the loan.

5 The ECOA, and its implementing regulation, Regulation B, were enacted and promulgated to require that lenders make credit equally available to all creditworthy borrowers without regard to race, color, religion, national origin, sex, marital status, age, receipt of public assistance or the fact that the borrower in good faith exercised any right under the Federal Consumer Credit Protection Act. In addition to the prohibition against discrimination, the ECOA and Regulation B 10 also contain, among others, requirements regarding the provision of appraisal reports, evaluation of applications, spousal signatures, and the provision of adverse action notices.

Regarding state laws, most jurisdictions have enacted licensing statutes that may require real estate sales professionals, builders, financial 15 institutions/lenders and mortgage brokers to obtain a license and satisfy various other financial, educational and operational requirements. Most jurisdictions also have enacted laws that impose, among others, requirements regarding the types of fees that may be charged to a consumer in connection with a mortgage loan transaction and the persons entitled to receive such fees, as well as certain 20 jurisdiction-specific disclosures that must be provided to the consumer.

There is a need for a system to facilitate the application of all of these laws and regulations ("regulations") in an efficient and systematic manner during the course of a mortgage loan transaction by using the telecommunications and computing facilities available to the market today.

25 While some state laws are more restrictive, RESPA allows a licensed real estate professional to receive compensation for originating a mortgage loan only if that real estate professional provides goods or facilities or performs services that are necessary for the origination of the loan and that are separate and distinct from any services the real estate professional provides incident to the sale of the 30 property that secures the mortgage loan. Moreover the mortgage loan process is labor intensive, error prone and time consuming for all parties concerned, making

it difficult for a real estate professional to track the services he or she provided to satisfy RESPA and state requirements to justify receiving compensation.

Since the inception of the mortgage process wherein a borrower and lender associated themselves to enact a mutually beneficial and agreeable relationship, the lending process has become increasingly complex. In prior times, a lender, typically a small bank, negotiated directly with a potential home, commercial, or business owner to purchase real property. The borrower presented him - or herself directly to the president of the bank, or to a designated lending officer, and petitioned that bank officer for money to accomplish the purchase of, or improvement to a piece of property. The deal was sometimes affirmed in the form of a handshake, but by definition, a mortgage loan is a loan secured by a mortgage on the subject property. In all, the process was very subjective, and great weight was given to the friendship (or lack of it) between the borrower and lender, as well as other factors which, in today's lending environment, are discouraged or are illegal. The demand for fairness and equity, as well as an increasingly competitive lending environment, was the reason why RESPA was passed and now requires a greater level of sophistication on the part of the lending community. Furthermore as indicated above, increasing oversight on the part of governments and regulatory agencies have required increased levels of sophistication in the traditional borrower-lender relationship. While these oversight demands are generally considered to be a benefit to the borrower-lender relationship, it is, nonetheless a burden to all parties, and significant increases in both time and cost are accrued to the process. As well, protective regulations added by the lending community under whose umbrella the industry operates, further protract the process of 'doing business'. As indicated above, these regulations and 'rules' governing the mortgage process permit those in the loan origination role to receive a fee for services rendered when the applicable rules are followed, as well as penalties and loss of fees for non-compliance. For example, RESPA has criminal penalties wherein a violator can go to jail for up to a year.

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5 The impacts from this increased burden are manifold. The process of obtaining a property-secured loan is protracted by regulation and disjointed, because the participating agents, workers, institutions, and individuals are linked throughout the transaction by archaic means, that is to say, via face-to-face meeting, telephone conversation, fax, postal mail, private delivery contractors, e-mail, and electronic file transmittal. While in some instances, these means are considered by some to be state-of-the-art, they are not. Inherent in all of these transactive mechanisms is the human element. It is typical that time is consumed from the loan application, underwriting, and issuance process because a person is involved at virtually every step of the process. Typically, individuals process information serially, that is, one requirement after another, whereas other means exist to process information and service requests in parallel, where multiple requests are handled or processed simultaneously.

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15 In current methodologies, the loan approval can occur only after the lender has obtained and processed all relevant borrower information, including financial, credit, and employment information. A further disabling of the process exists when errors are made, an event more common when persons are involved in simple, repetitive data handling and manipulation tasks.

20 In present implementations, the mortgage underwriting process generally follows the following pattern: A borrower, wishing to purchase or improve real property, and usually without the help of experienced advisors, makes a personal determination of the amount of available money generally required for a down payment and his or her ability to repay a loan for the balance. With this personal estimate in mind, a borrower (or buyer) begins a search for property and attends carefully to the costs of said property, making sure that the scope of the search is within the individual's envisioned cash flow constraints and acceptable debt ratios. Generally, individuals seek the professional services of a skilled Real estate sales professional or other agent to aid in the search for suitable property. Concurrent with this search, the individual will often, at the advice of a Real estate sales professional, seek to obtain a pre-approval for an envisioned loan amount, or at least a pre-qualification for a loan. In certain lending models

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envisioned by the present invention, loan approvals are accompanied with a 'rate-lock', or an indication by the lending institution of the available interest rate. Until such a commitment is obtained, it is generally not possible for the individual to faithfully commit to the purchase of property. In the current practice, the pre-approval process occurs outside of the Real estate sales professional's control. However, when a loan pre-approval is obtained, the buyer may, in good faith, negotiate with a seller for the purchase of property. Such negotiations are almost always facilitated by the attending Real estate sales professional(s) who represent the buyer and/or seller in the negotiation. When a mutually agreeable price is determined, and terms of the agreement specific to the buyer and seller are negotiated, appropriate documents are signed, such documents constituting a formally offered and accepted 'offer to purchase'. At this time, the lending institution originally issuing the loan pre-approval is contacted to proceed with the loan application. It is at this step that the aforementioned 'burdens' come to bear on the transaction.

In the past, attempts have been made to automate some parts of this process. For example, U.S. Patent No. 5,995,947 issued 11/30/99 to IMX Mortgage Exchange titled "Interactive Mortgage and loan information and real-time trading system" provides a system and method for trading loans wherein a transaction server maintains a database of pending loan applications and their statuses, and wherein each party to the loan (broker, lender) can search and modify the database consistent with their role in the transaction. However this system focuses on only one facet of the loan process itself. Other parts of the loan process are addressed in U. S. Patent No. 5,966,700 issued 10/12/99 to Federal Home Loan Bank of Chicago, titled "Management System for Risk Sharing of Mortgage Pools" is a system wherein a mortgage originator (bank, savings & loan, etc.) and a funding institution (Federal Home Loan Bank, etc.) agree to assume certain risks for the mortgage by entering into a credit agreement having an overall credit enhancement value, and wherein the system calculates and records the allocation of mortgage interest and credit risk between them. This system functions after a mortgage has been issued which is outside of applicants'

present system. Another recently issued patent related to mortgage loans is U. S. Patent 5,991,745 issued 11/23/99 to Fannie Mae, titled "Reverse Mortgage Loan Calculation System and Process", which is a payment calculation system related to loans that the borrower is generally not required to repay until the security property is sold. Still another is U. S. Patent No. 5,940,812 issued 8/17/99 to LoanMarket Resources, LLC titled "Apparatus & Method for Automatically Matching a Best Available Loan to a Potential Borrower via Global Telecommunications Network" teaches a system for matching loan requests (and related credit data) to lenders (with related eligibility criteria) in order to facilitate such loans whether they be for automobile purchases or whatever. Similarly, other U. S. Patents teach methods for real time loan approval (No. 5,870,721), methods for Lender direct credit evaluation and loan processing (Nos. 6,029,149; 5,930,776; and 5,611,052); and methods for keeping track of loans, loan histories, leases and pertinent data related thereto (No: 4,774,664).

Inherent in most property transactions, especially those involving a mortgage, are other elements which, as suggested before, serve to protect the interests of all concerned parties, but which unnecessarily protract the underwriting process. These generally include at least the following: a processing procedure and fee to originate the loan application, a title search to discover any encumbrances on the property such as liens, overdue taxes, etc., a credit check on the borrower of record to determine the credit-worthiness of the individual, a verification of employment which speaks to the individual's ability to repay the loan, a property survey, where such is dictated by local laws, an appraisal to determine if the property value secures the lender's investment, application for various insurances such as flood, earthquake, or other insurance as local law and custom requires, the loan application itself, and other such applications, searches, and discoveries, as local laws dictate. In addition to the aforementioned, an income to debt ratio is established to help select the most appropriate loan program(s) consistent with the lender's policy and the borrower's requirements.

Of equal importance in the process is the distribution of service fees and commissions associated with real estate mortgage transactions. The timeliness and

accuracy of transactions can adversely affect the payment of various agents or workers involved in the process. Furthermore, because of the almost casual connection between the parties to the transaction, coupled with heretofore rigid definitions of each worker's responsibility, creative solutions to the

5      aforementioned problems were not forthcoming, and little could be done to remedy these problems. Personal intervention on the part of agents or other workers could help, but weren't part of the scope of the transaction, were unreliable, and were differentially applied, often in consideration of such elements as the wealth or prestige of the borrower, the value of the property, personal

10     friendships, or other less tangible factors.

Many of the agents or workers participating in the transaction bear a limited portion of the responsibility for the transaction. Employment verification, title searches, and the like, are often of fixed duration and required effort with mortgages falling within a broad value range. As such, these workers enjoy a

15     steady, regulated income flow. It falls however, to the real estate agent to invest time on an open-ended basis to accomplish a sale. In this instance, the commission is often fixed by industry convention or statute, and the Real estate sales professional typically doesn't enjoy the benefit of serving as both listing and buying agent, which might net a full commission. More typically, the agent must

20     make a 50/50 split with another agent or agency. Adding injury to this significant commission reduction is the typical requirement that the remaining commission balance be split, usually 60/40, with the Real estate sales professional's parent agency. It is common for a Real estate sales professional, having invested many hours over a period or weeks or months, to realize a modest 1-2% of the selling

25     price of the property. Given this scenario, it is expected that a Real estate sales professional will focus on opportunities which will bear fruit faster, and leave the longer-term prospects alone, even though they have a similar reward and are of equal value in the eyes of the respective buyers and sellers.

30     The current state of the art simply does not provide a means whereby the real estate sales professional, or any other agent or worker, may participate in the

other portions of the monetary flow, beyond that which is historically common to their respective industries.

While there are a number of developing systems, as mentioned above, for automated lender selection and loan tracking, it is clear that a need exists for an automated system based upon a database of federal, state and local rules and regulations, which can be used to identify, for a given loan transaction, the set of tasks required to process and complete the loan transaction, including tasks required by applicably federal or state law, and to track the set of tasks during the process itself to reasonably assure that compliance with these rules and regulations can be reported, or alternatively, that compliance task completion may be traced to the entity reporting completion. There is a further need to automatically attach the regulatory compliance information with a task management system required to process loans and to provide methods for integrating the Compliance Engine technology with any third party loan processing software.

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## SUMMARY OF THE INVENTION

The present invention provides a solution to the needs described above through a system and method for automatically generating a set of required tasks for use in managing the mortgage loan process by use of a compliance engine, including tasks required by applicably federal or state law. The automated system of the present invention automatically attaches the regulatory compliance information and a task management system required to process loans and provides methods for integrating the Automate Compliance Engine technology with any third party's loan processing software.

The automated system of the present invention uses the Federal, State, local and professional regulations and requirements and implementing instructions to generate a plurality of tasks which can be used to control and drive the process of handling a mortgage loan application to completion and settlement in accordance with these regulations . Mortgage loan requestors may specify that the system will generate the plurality of required tasks, including tasks required by applicably federal or state law, provide the plurality of required tasks to the requestor for his execution, including tasks required by applicably federal or state law, and monitor the completion of all required tasks so as to provide a completion certificate to the requestor. Alternatively, mortgage loan requestors may specify that the automated system will generate the plurality of required tasks, including tasks required by applicably federal or state law, will manage and control the execution of the required tasks, and monitor the completion of all required tasks so as to provide a completion certificate to the requestor.

The invention allows loan originators to enter loan applications and comprises a platform to allow other entities to underwrite the loan (that is, this invention is not a loan approval system, but can use any lender's loan approval system) but which provides the means to control and drive the mortgage transaction to closing by means of a compliance system which contains a rules engine built around the required Federal and State regulations and which tracks and records every step in the process to provide a record of completion for Federal

and State regulators. The invention was designed to provide mechanisms for use to assure that loan originators meet and exceed federal, state, local and professional laws governing the relations between real estate sales and mortgage lending activities.

5           A computer implemented method is disclosed for facilitating processing of a mortgage loan application wherein the system receives a request to process a mortgage loan; generates a plurality of tasks, the tasks comprising actions required to process the mortgage loan, and including tasks required by applicable federal and/or state law; and distributes one or more of the required tasks to one or  
10       more systems capable of performing one or more of the tasks. The method further provides an act of monitoring the completion of the plurality of tasks whereby a report of completion of all required tasks can be generated.

          A compliance engine is disclosed for automated processing of mortgage loans which has a computer system with communications devices for receiving a  
15       request to process a mortgage loan; the computer system having logic devices programmed to generate a plurality of tasks required to process the loan, wherein the tasks are made up of actions which are required for a specific mortgage loan by various legal rules and regulations; and wherein the computer system has logic devices programmed to distribute the plurality of tasks to various systems who  
20       can carry out the tasks.

          Also disclosed is a server node in a network which is responsive to a request to process a loan by generating a plurality of tasks which are required to process the requested loan, including tasks required by applicably federal or state law, and for distributing the plurality of tasks to persons who are qualified to  
25       perform the tasks. Also disclosed are mechanisms in the server node for monitoring the completion of the plurality of tasks related to a given loan and for generating reports and completion certificates associated with the actions related to the given loan.

          Also, a computer program stored on a computer readable medium or  
30       carrier wave is disclosed having computer code mechanisms for receiving a loan request; for generating a plurality of tasks required to process the loan, including

tasks required by applicably federal or state law, and distributing the plurality of tasks to persons capable of performing those tasks. Additional code mechanisms are disclosed which monitor the completion of the plurality of tasks and when all tasks are completed can issue various reports and completion certificates.

5           Still other embodiments of the present invention will become apparent to those skilled in the art from the following detailed description, wherein is shown and described only the embodiments of the invention by way of illustration of the best modes contemplated for carrying out the invention. As will be realized, the invention is capable of modification in various obvious aspects, all without  
10       departing from the spirit and scope of the present invention. Accordingly, the drawings and detailed description are to be regarded as illustrative in nature and not restrictive.

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## DESCRIPTION OF THE DRAWINGS

The features and advantages of the system and method of the present invention will be apparent from the following description in which:

Figure 1 illustrates a typical configuration of Internet connected systems representative of the preferred embodiment of the present invention.

Figure 2 illustrates a typical general purpose computer system of the type representative of the preferred embodiment.

Figure 3 illustrates the business model which encompasses the present invention.

Figures 4A & 4B illustrate a functional flow chart of a preferred embodiment of the system.

Figure 4C illustrates a configuration of an embodiment of the system which contains the invention.

Figure 4D illustrates exemplary functions of the Compliance Engine.

Figure 5 illustrates a configuration of an alternative embodiment of the system which contains the invention.

Figure 6 is a flow chart depicting the process Map and Workflow Definition for a New Loan.

Figures 7 - 30 illustrate exemplary screenshots for the system embodying the present invention .

Figure 31 illustrates an exemplary Internet configuration showing the hardware and software systems used in an embodiment at this time.

Figure 32 illustrates another exemplary Internet configuration showing the hardware and software systems used in an embodiment at this time.

Figure 33 illustrates an exemplary embodiment of the Input gateway module.

Figure 34 illustrates an exemplary relationship of various system elements with the GHR sub-system.

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Figure 35 illustrates an exemplary embodiment of the “task maintenance & status reporting” gateway.

Figure 36 illustrates a preferred embodiment of the “transaction service provider” gateway.

5           Figures 37 - 41 depict additional screen shots of the system embodying the invention, showing an exemplary set of tasks required to complete a loan.

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## DETAILED DESCRIPTION

The present invention provides a solution to the needs described above through a system and method for managing the mortgage loan process. The automated system of the present invention uses the Federal, State, local and professional regulations and requirements and implementing instructions to identify the set of tasks required to process a specific loan application, including tasks required by applicable federal and state law, to use, or provide this set of tasks to a lender to use, to drive the process of handling the specific mortgage loan application, and to monitor and report the completion of the specified tasks as required by these regulations, or alternatively, that the required task completion may be traced to the completing entity.

The heart of various embodiments of the present invention is a module designated an Automated Compliance Engine (the "Compliance Engine") which is designed to maintain and use a rules-based loan compliance database to generate the set of tasks required to be performed to complete and close a specific mortgage loan transaction. This Compliance Engine is described in more detail below. However, we now describe a general overview of a preferred embodiment of the invention.

### **(1) General Overview**

All mortgage loans will be originated through the applicants (OnePipeline.com) website. In the future, websites other than OnePipeline.com's will be used to originate loans that will interface with the compliance engine. The technology used as part of the system currently is, and will be, able to interface with many other industry standard software programs to make the exchange and flow of data easy and accurate.

The system is predominantly web-enabled, which extends its use to all industry professionals connected to the Internet. The system contains the Compliance Engine that applies Federal, State, Local, and profession based filters to each loan application and each Loan Originator to create a combined task list

that defines a custom workflow process for every transaction originated through the System and Program, which forms the basis for monitoring the steps and procedures required for a specific loan transaction in order to provide a completion report for the specific mortgage loan. The rules applied to each new mortgage loan application will determine who is permitted or required to perform which services in the loan origination process under the Program and who will receive fair market compensation for services actually performed. The System then creates a record of the actual workflow. The list, as a composite of compensation or origination tasks and required tasks, is represented as a 'task list', and may optionally be presented to a subscriber client through an API.

## **(2) Detailed Description**

In an embodiment of the System, the Borrower and Loan Originator work together throughout the loan origination process. Once a Borrower decides to work with a Loan Originator on the System, the System will have the Borrower and Loan Originator answer typical financial and property questions concerning the Borrower. The answers to these questions will allow the System to pre-qualify the Borrower for a loan and offer appropriate loan program options to the Borrower. Once the System makes this information available to the Borrower and Loan Originator, the Borrower will be able to choose to make a formal mortgage loan application on-line through the Loan Originator.

After a consultation between the Borrower and Loan Originator, the Borrower will then be able to select a loan program -or request the System to find the most advantageous interest rate available from the various lender options. The System and staff will select a loan product and submit the application to the appropriate lender for approval and distribute on-line results back to the Borrower and Loan Originator, together with a complete set of underwriting conditions.

An exemplary sequence of events is as follows:

The Loan Originator consults with the borrower about the property and loan products generally available,

After entering the required data, including a self-declared credit profile, the application is programmatically compared to available products, typically using a service and program of the type provided by GHR's PremierPricer™ software,

5 If a list of suitable products is returned by a GHR-like system, the Loan Originator assists the Borrower in selecting the preferred loan product,

The Application is then re-submitted to the GHR-like product selection system and the credit rating of the Borrower is programmatically obtained,

10 With the 'official' credit rating available, the GHR-like system returns a list of one or more loan products,

If the desired loan product is on the list, then the application process proceeds to underwriting,

15 If the desired product is not available, but there are other loan products, then the Loan Originator and the Borrower will select and apply for another suitable loan product,

If no loan products are available, then the system returns an appropriate notification, and the loan application is forwarded to the lender, with the initial desired loan product, for human review, adjustment, and probable selection of a suitable loan product for underwriting.

20 Making either selection will notify the System of the Borrower's intent to proceed with the mortgage loan origination process and will initiate the rules evaluation process, coincident with underwriting of the loan, as described in the next paragraph.

25 The System's Compliance Engine will apply a set of rules appropriate to each mortgage loan transaction, including property and borrower profile, originator's professional guidelines, state and federal regulations and other relevant rules. The final filtered task list will then apply to each mortgage loan transaction in an attempt to assure that the mortgage loan is originated in accordance with applicable federal and state laws. This will include,  
30 making sure that qualified Loan Originators, Independent Contractors and Local Loan Processors are permitted to perform services associated with the loan

origination process and that all services required to be performed in order for the Loan Originator, Independent Contractor and/or Local Loan Processor to receive compensation in connection with the mortgage loan transaction are actually performed.

5           Based on the mortgage loan origination process requirements defined by the Compliance Engine, the Loan Originator will make decisions about each of the service providers (e.g., inspection companies, surveyors, appraisers, title companies, etc.) the Loan Originator wishes to have involved in the mortgage loan transaction. Any qualified service provider will be able to be selected by the  
10   Loan Originator and entered into the System at this point. Some nationwide service providers may, in the future, have a direct online ordering system available inside the System. Others may still require the typing in of the name and contact information. OnePipeline.com, Inc. expects that it will be most common for Borrowers to select local service providers with whom they are familiar.

15           After the Borrower selects the service providers, the Loan Processor will confirm to the system which services have been provided by the Loan Originator. As described in more detail below, the services actually performed by the Loan Originator, Independent Contractor and/or Local Loan Processors will serve as the basis for the fees earned as fair market compensation for performing settlement  
20   services in connection with the mortgage loan origination process under the Program.

          After each of the above steps are completed, the System will automatically create a workflow process based on the applicable rules and appropriate tasks will be eventually assigned to each of the service providers for the mortgage loan  
25   transaction. In a preferred embodiment, the mortgage loan data and applicable tasks will be passed to a workflow generation system, either implemented as an integral part of the system of the invention, or as a service provided by a remote application service provider (ASP), which will generate an automated workflow process which can notify each service provider of his task(s) and allowing each  
30   service provider to interact in completing needed tasks. All task assignments will be distributed by the System and tracked. At this point, many people will be

working on the loan simultaneously through the System. For example, the Loan Originator may be obtaining financial information from the Borrower, the Independent Contractor may be ordering an appraisal, the Local Loan Processor may be verifying Borrower information, and various service providers may be performing services and adding information to the mortgage loan file through the System. Hard copy data will be input by either OnePipeline's staff, an Independent Contractor (to the extent permitted under state law) or the Local Loan Processor, and added to the physical mortgage loan file. Work notices and status communications may be generated automatically by the System to keep the process moving and to ensure that all appropriate parties perform their assigned tasks in the proper order to meet all rules requirements applicable to the mortgage loan transaction.

**c. Products Available**

Borrowers may obtain a loan using the facilities of the lender organization, in which mode the system of the invention merely determines which tasks are required and tracks the completion of the required tasks. By obtaining a loan through the Program, Borrowers will be given access to a wide variety of first lien, fixed and variable rate, closed-end mortgage products (both purchase money and refinancings) at competitive rates and pricing, and in a timely and efficient manner. For example, as noted above, OnePipeline.com, Inc. will make available to the Borrower, loan products and interest rates that are available from its participating lenders. OnePipeline's System and Program also will make available and support secondary lien, fixed and variable rate, closed-end loan products and interest rates available from its participating lenders. In the future, OnePipeline may give Borrowers access to first and second lien, fixed and variable rate, open-end mortgage products through the Program. OnePipeline's Program and System will not make available or support mortgage loans that constitute "High Cost" or Section 32 mortgage loans, which are covered by Section 32 of Regulation Z, 12 C.F.R § 226.3

**d. Funding Source**

In a preferred embodiment, OnePipeline.com, Inc. will not fund any mortgage loans, and no mortgage loans will be closed in OnePipeline's name. OnePipeline will be acting exclusively in the capacity as mortgage broker. All mortgage loans will be funded by, and closed in the name of, a participating lender. In an alternative embodiment, OnePipeline could fund certain mortgage loans and close loans in their name in those jurisdictions where qualified to do so.

**e. Disclosures and Form Documents**

In a preferred embodiment, the System will produce applicable Borrower disclosures (on a state specific basis) required under applicable law to be provided to the Borrower in connection with the mortgage loan origination process under the Program. The Loan Originator will be required to provide the disclosures to Borrowers at the appropriate times. Moreover, the Loan Originators will be required to provide the Borrower with a disclosure that informs the Borrower that the Loan Originator will receive compensation for services actually performed by the Loan Originator in connection with the mortgage loan transaction. This disclosure also will inform the Borrower that the Loan Originator is an exclusive part-time W-2 employee of OnePipeline, and that the Borrower is free to use another mortgage broker or lender other than OnePipeline.

The System also will allow a lender to elect to use a standard set of mortgage loan documents, which can be printed off of the System, in connection with a mortgage loan originated through OnePipeline's Program, or the Lender may use its own forms. The forms available off of the System will be provided to OnePipeline by a third-party document vendor.

**f. Mortgage Loan Fees**

Fees will generally include, among other permissible fees: (1) origination fee payable to the lender and passed through to the Loan Originator based on services performed; (2) underwriting fee payable to the lender and passed through to Local Loan Processor; (3) impound waiver fee payable to the lender and passed

through to secondary market investor (only on loans without escrow accounts); (4) processing fee payable to the lender and passed through to Local Loan Processor; (5) document preparation fee payable to the lender and passed through to third-party vendor; (6) tax related service fee payable to the lender and passed through to third-party vendor; and (7) attorney fee payable to lender and passed through to closing attorney. OnePipeline.com, Inc. will charge a lender a membership fee to participate in OnePipeline's Program and a flat fee for each Completion Certificate issued to the lender.

#### **g. Loan Originators**

In a preferred embodiment, mortgage loans will be originated through the System and Program by licensed real estate sales professionals, such as real estate agents/salespersons and, in limited cases, real estate brokers. The individual real estate agents and individual real estate brokers (i.e., brokers that are not corporations or similar business entities) will enter into an employment agreement with OnePipeline, and become part-time W-2 employees of OnePipeline.com. The employment agreements will expressly require the Loan Originator to originate mortgage loans exclusively for OnePipeline.com, and prohibit the Loan Originators from receiving compensation for performing loan origination services for another mortgage lender or mortgage broker.

In the future, other non-traditional originators, such as investment advisors, financial advisors, accountants and other professionals may be added to the Program as Loan Originators, in each case to the extent permitted by applicable law. Loan Originators may also have an affiliation with a mortgage lender, which defines the selection of loan products the Loan Originator may offer.

#### **i. Local Loan Processors**

In a preferred embodiment, wherein the loan is being processed through the system of the invention, loan processing functions which would trigger mortgage broker or similar licensing requirements under applicable state law will



be delegated to properly licensed Local Loan Processors who will receive compensation intended to be fair compensation for services actually rendered by them. The Local Loan Processors will be either mortgage brokers and mortgage bankers.

5

#### **j. Services Performed**

As noted above, in a preferred embodiment, a Loan Originator will initiate the mortgage loan process with a borrower using OnePipeline's System. The services that a Loan Originator will have to perform, in all cases, in order to be fully compensated include the following: (1) obtaining the applicant's signature on disclosures, (2) obtaining the applicant's signature on the credit authorization, (3) pre-qualifying applicants, (4) assisting applicants in selecting loan products, (5) taking the loan application or obtaining loan application information, (6) reviewing the credit decision with the applicant, (7) explaining the good faith estimate and other disclosures to the applicant, (8) collecting documentation from the applicant that is needed in connection with processing and underwriting the loans, (9) updating the applicant and responding to applicant inquiries, (10) locking the interest rate, and (11) scheduling and attending the closing.

If a Loan Originator does not perform all required services, the services will be performed by OnePipeline's staff, Lender's staff, an Independent Contractor (to the extent permitted under applicable state law) or by a Local Loan Processor, and the compensation received by the Loan Originator will be reduced accordingly.

By way of additional background, the basic of the rules and regulations which form the heart of the present invention are now described in more detail.

#### RESPA Compliance

The following is a brief summary of RESPA and its implementing regulation, Regulation X, and their requirements. It is not intended to be comprehensive. For example, RESPA and Regulation X may not apply in all situations, and their application is not discussed below. Users should consult RESPA, Regulation X

and independent legal counsel for complete explanation of RESPA, Regulation X and their requirements.

The Real Estate Settlement Procedures Act ("RESPA") is a federal statute that was enacted by Congress in 1974. A federal regulation implementing RESPA ("Regulation X") also has been promulgated by the United States Department of Housing and Urban Development ("HUD"). HUD is the federal agency charged with administering and enforcing RESPA, Regulation X and their requirements.

RESPA was enacted to provide Borrowers with greater and more timely information on the nature and costs of the home buying/settlement process, and to protect Borrowers from unnecessarily high settlement charges caused by certain practices believed to be abusive. Among other requirements, RESPA and Regulation X prohibit the payment or receipt of "any fee, kickback or thing of value" (i.e., a referral fee) in exchange for the referral of settlement service business. Settlement service business includes, among other services, loan origination services such as taking applications, obtaining income verifications and communicating with a borrower or lender.

RESPA and Regulation X permit a lender to make reasonable payments to its agents and contractors for services actually performed in the origination, processing or funding of a loan. Based on interpretations of this provision in RESPA and Regulation X, real estate sales professionals and others may, in certain circumstances, provide loan origination services and receive fair market compensation for the services they actually perform.

The preferred embodiment of the invention in OnePipeline.com's program and system are designed around this provision. Applicant's loan originators are required to perform certain settlement services in connection with loans originated by OnePipeline.com, and the compensation received by these loan originators and regional loan processors is intended to be fair market compensation for the services they actually perform.

#### Other Federal and State Compliance

The following is a brief summary of other federal and state statutes, regulations and laws that impact OnePipeline.com's system and program, and a user's

performance of services under this system and program. It is not intended to be comprehensive. Users should consult the statutes, regulations and laws, and independent legal counsel, for a complete explanation of other applicable federal and state statutes, regulations and laws.

5           Among other federal laws, the Truth in Lending Act ("TILA") and the Equal Credit Opportunity Act ("ECOA") impact OnePipeline.com's program and system, and the user's performance of services under applicant's system and program. The TILA, and its implementing regulation, Regulation Z, were enacted and promulgated to assure meaningful disclosure of credit terms so that the  
10       Borrower will be able to compare more readily the various terms available to the Borrower. Under the TILA, certain disclosures are required to be made to the Borrower prior to the consummation of a mortgage loan transaction.

          The ECOA, and its implementing regulation, Regulation B, were enacted and promulgated to require that lenders engaged in the extension of credit make  
15       that credit equally available to all creditworthy Borrowers without regard to race, color, religion, national origin, sex, marital status, age, receipt of public assistance or the fact that the Borrower in good faith exercised any right under the Federal Consumer Credit Protection Act. In addition to the prohibition against discrimination, the ECOA and Regulation B also contain, among others,  
20       requirements regarding the provision of appraisal reports, evaluation of applications, spousal signatures, and the provision of adverse action notices.

          Regarding state laws, most jurisdictions have enacted licensing statutes that may require real estate sales professionals, builders, financial  
25       institutions/lenders and mortgage brokers to obtain a license and satisfy various other financial, educational and operational requirements. Most jurisdictions also have enacted laws that impose, among others, requirements regarding the types of fees that may be charged to a Borrower in connection with a mortgage loan transaction and the persons entitled to receive such fees, as well as certain  
30       jurisdiction-specific disclosures that must be provided to the Borrower.

## OPERATING ENVIRONMENT

The environment in which the present invention is used encompasses the use of general purpose computers as client or input machines for use by loan originators, lenders and other parties interested in the mortgage loan process.

5 Such client or input machines may be coupled to the Internet (sometimes referred to as the “Web”) through telecommunications channels which may include wireless devices and systems as well.

Some of the elements of a typical Internet network configuration are shown in **Figure 1**, wherein a number of client machines 105 possibly in a branch office of an Real Estate Service, or financial institution, lender, etc., are shown connected to a Gateway/hub/tunnel-server/etc. 106 which is itself connected to the internet 107 via some internet service provider (ISP) connection 108. Also shown are other possible clients 101, 103 possibly used by other loan originators, or interested parties, similarly connected to the internet 107 via an ISP connection 104, with these units communicating to possibly a home office via an ISP connection 109 to a gateway/tunnel-server 110 which is connected 111 to various enterprise application servers 112, 113, 114 which could be connected through another hub/router 115 to various local clients 116, 117, 118. Any of these servers 112, 113, 114 could function as a server of the present invention, as more fully described below. Any user situated at any of these client machines would normally have to be an authorized user of the system as described more fully below.

An embodiment of the Mortgage Loan Management System of the present invention can operate on a general purpose computer unit which typically includes generally the elements shown in **Figure 2**. The general purpose system 201 includes a motherboard 203 having thereon an input/output (“I/O”) section 205, one or more central processing units (“CPU”) 207, and a memory section 209 which may or may not have a flash memory card 211 related to it. The I/O section 205 is connected to a keyboard 226, other similar general purpose computer units 225, 215, a disk storage unit 223 and a CD-ROM drive unit 217. The CD-ROM drive unit 217 can read a CD-ROM medium 219 which typically

contains programs 221 and other data. Logic circuits or other components of these programmed computers will perform series of specifically identified operations dictated by computer programs as described more fully below.

## 5                    DETAILED DESCRIPTION OF THE INVENTION

10                    In consideration of it's major aspects, the present invention is a system and methodology, comprising a 'container' concept, wherein the mechanics of real estate transactions beginning with loan origination and proceeding serially and in some instances in parallel through the closing, funding and disbursement and reporting of funds may be accomplished. The system also controls the timing of the process and the time allocated to the completion of each loan occurrence. When the time allocated to a process expires, the task is transferred as required by the rule base. The system, constituting the present invention, is designed to programmatically manage and document all attendant processes with compliance to applicable regulatory rule sets and requirements of participating workers. In a preferred embodiment, data exists within the executing programs as 'objects', the meaning of which as commonly understood by those skilled in the art of 'object-oriented programming'. In a preferred embodiment, the software programs comprising a portion of the present invention are also object-oriented. An integrated relational database management system is utilized to maintain persistent data and to permit and facilitate queries and reports against the persistent data. While the embodiment of the present invention embraces certain elements of a 'closed loop', or self-contained decision-making process, it's strength lies in the ability to orchestrate the workers or agents participating in the lending transaction with respect to responsibilities and financial compensation.

25                    The system of the invention encompasses a means whereby the object-oriented 'instances' or discrete occurrences of data, may be stored and retrieved from the relational database management system. In the preferred embodiment, such storage and retrieval is accompanied by programmatic conversion of said data instances to 'formats', or preferred representations upon which the required program(s) may act. Such data storage occurrences and the accompanying

manipulations of said data follow preferred programmatic documentation procedures such as sequentially 'nested' descriptors. An example of a sequentially 'nested' descriptor would be, 'borrower.occupation', where the nested descriptors are separated by a '.' or 'dot', and in such manner are understood to mean, 'the identified borrower's occupation'. Such 'dot' notation will hereafter be used to describe the higher level of programmatic functionality when such explanation is necessary. Those skilled in the art will understand JAVA™ programming, Object oriented Programming, and the use of automated "Agents" to perform programmed tasks whenever activated to do so, HTTP, XML and other communications protocols as described in more detail below.

An exemplary way to articulate the concept and embodiment of the present invention is the idea of a 'container', which brings together the loan originator, the subject real property attributes, and the lender, as well as means to validate transaction profitability and bundle said transactions for sale to lenders. Or in an alternative view, as a means for generating the required compliance tasks for a specific loan transaction, provide the tasks to a lender and monitor the completion of all required tasks by the lender's service providers. The present invention provides decision points wherein the loan originator makes selections from menu(s) generated by the compliance engine acting upon the original information supplied by the originator. The selection process introduces the refined data into an integrated 'workflow' process wherein rule-based engines and other workers or agents act toward a common goal of closing, funding, shipping, and collecting transaction fees on a loan.

Referring to **Fig. 3** there is illustrated, in schematic form, a preferred embodiment of the present invention. The business model is comprised of several functional elements, including at the highest level, embodiments which effect loan origination **301**, closing, processing **303**, funding **305**, and shipping **307**, with transfer of funds. In concert, these elements may be referred to as the 'pipeline' or system which embodies the whole of the several elements comprising the present invention.

As indicated above, the present invention is a method and apparatus for automating the process of generating a set of tasks required for controlling, and regulating a mortgage loan application, underwriting the loan, and tracking the tasks through the closing process, wherein the tasks comply with all known  
5 Federal, State and local requirements for the specific loan. Elements of an alternative embodiment include loan origination, authenticating the loan originator, underwriting the loan, closing, processing, funding, and shipping, with transfer of funds, within the regulatory legal framework of funding and reporting, required for these processes. In a preferred embodiment, which is described in  
10 detail below, some or most of these functions may be performed by the lender or application service providers (ASPs) with the system of the invention providing the set of required tasks generated by a Compliance Engine and simply monitoring the completion of those tasks.

Referring now to **Figures 4A, 4B, 4C and 4D**, the principal elements of a preferred embodiment of the present invention are illustrated in more functional detail. Original inputs from a lender/loan originator come into the system **401**  
15 through the 'Loan Origination Gateway' (**451 in Fig. 4C**) or portal, which serves as an 'entry point' or gateway to the 'pipeline' or system for loan originator data and borrower data. The loan originator data **403** is used as input data to an authentication module (**453 in Fig. 4C**) to verify the lender/loan originator's ID and password. Those skilled in these arts will recognize that this authentication  
20 process for the client/user may include digital signature authentication as well as other types of cryptographic verification and authentication of users. If the lender/loan originator's ID and or password do not authenticate, a message is sent back to the originator indicating that fact and the system exits. If the loan  
25 originator is found to be qualified, the loan originator data and borrower data are passed to the Compliance Engine **405 (476 in Fig. 4D)** for later use. The borrower-supplied credit data is then passed to a Loan Origination & Program Matching module **407 (456 in Fig. 4C)**. The Loan Origination & Program  
30 Matching module returns a list of loan products for which the borrower is qualified **409**. In a preferred embodiment, this function is provided by a

PremierPricer™ program supplied by GHR Systems™ Inc. The PremierPricer™ Component is described in more detail at the GHR Systems web site, which can be found at [www.ghrsystems.com](http://www.ghrsystems.com), which description is hereby incorporated fully herein by reference. Additional detail on the interface to this PremierPricer™ Component is provided below. In an alternative embodiment, the Loan Origination & Program Matching module is one which is supplied by applicants as an integral part of the pipeline system, wherein up-to-the-minute product and pricing information is provided when the module is supplied with basic transaction parameters (i.e., LTV, loan amount, property location, property type, etc.).

Continuing with reference to **Figure 4A**, borrower then selects a loan from the list of loan products for which the borrower is qualified and submits a loan application **411**. In a preferred embodiment, the system, recognizing the loan application selection, submits a credit report request to a credit bureau **413** and passes this data to the GHR Systems PremierPricer™ Component **413**. A list of loan products for which the borrower is qualified are returned to the lender & borrower **415**. If the borrower is not qualified for any loans, **419** the loan request is referred to a loan officer and the system exits **429**. If the borrower is qualified, he selects one of the listed loans (his original selection may or may not be on this list) **421, 423**. Referring now to **Figure 4B** the lender uses this data to process the loan and inputs loan approval data to the system **431**.

The loan data is passed to the Compliance Engine **431** (**477** in **Fig. 4D**). As part of this set of input data the user/lender selects optional tasks for this loan and inputs his selections along with data indicative of his fee arrangement with the borrower **432**. Referring now to **Figure 4D**, this data is passed by the system to the Compliance Engine **479** and the Compliance Engine uses these data (the loan data **477** and the user task selections **479**) to generate a required set of tasks for this specific loan (**433** in **Fig. 4B**). This required set of tasks is generated **478** by selecting the tasks from the task file **480** which are specifically required by the particular loan (i.e. loan type, location, value, etc.) and the contexts **481** (i.e. the combinations of circumstances where the tasks apply). The resultant set of tasks



for the specific loan **483** is separately recorded **482** in a file which can be modified as new tasks may be added or deleted, and as task completions are identified **485**.

In a preferred embodiment, the system can supply this required task list in its entirety to the lender if the lender wishes to manage the task completions himself through his own automated systems (see **441, 443 in Fig. 4B**). In this case, the system would merely monitor task completion data **445** (see also **485, 486, 487 and 488 in Fig. 4D**) and if required, issue a Completion Certificate **447** when the tasks are completed and the loan process closed. If the user/lender wants OnePipeline to handle the loan, the Compliance Engine can transfer the set of tasks for this loan to an internal Loan Processing & Workflow engine **437**. This internal Loan Processing & Workflow engine ( Forte Conductor™, Framework Lendware™, etc) (see also **462, 463, 464, 466 and 467 in Fig. 4C**) will automatically transmit specific tasks to specific workers who have been previously identified as responsible for those kind of tasks **438**, will supply task completion data to the Compliance Engine **440** when tasks are completed. The Compliance Engine will supply the completion data to the system so as to generate worker compensation and loan completion reports (see **468 in Fig. 4C**), and Completion Certificates **442**. The final process module in the system, the Banking & Loan Management process (**469 in Fig. 4C**), adds the loan, if it was provided by OnePipeline, and its related financial parameters to the inventory of loans managed by applicants. In a preferred embodiment, this Banking & Loan Management process **469** includes a secondary banking engine which manages the packaging and placing of loans with secondary financial institutions so as to optimize the financial returns on the loans handled by applicants. This process would be managed by Lendware™ via an on-site installation or by a Framework™ application service provider (ASP) or equivalent implementation. In an alternative embodiment, this secondary banking engine which manages the packaging and placing of loans with secondary financial institutions so as to optimize the financial returns on the loans handled by applicants would be a package developed internally by applicants.

A depiction of an alternative embodiment of the present invention is shown in **Figure 5** which describes the elements shown in **Figs. 4A, 4B and 4C** in a different depiction. Each of these features is described in more detail below.

The 'Loan Origination Gateway' **501** or portal, serves as an 'entry point' or gateway to the 'pipeline' or system. The loan originator enters data for both himself and for the borrower. This data is passed to the Authentication module **503** which uses these data as inputs to the Compliance Engine **520**. The Compliance Engine **520** uses these data from its associated worker's description **521** and legal context **523** files to determine whether the loan originator can originate this loan for this property. If so, the Authentication module **503** "authenticates" the transaction and passes the information to the Loan Origination System **505** for analysis of correspondent pricing and for underwriter approval. As indicated above, this function could be performed by the system or through the interface to an equivalent service such as the PremierePricer™ product supplied by GHR Systems™ Inc. Then the loan originator is asked to indicate which tasks he will do (of the optional tasks available) **519**. These optional task and fee data along with the original Loan Originator data and borrower data and underwriter data are then passed to the Compliance Engine **520** wherein the mandatory tasks identified based on the legal requirements for this loan originator and this location of the property, and the selected optional tasks are combined by the Compliance Engine **520** into a required set of tasks for this loan and passed as inputs to the Loan Fulfillment System **545**. The Loan Fulfillment System **545** assembles the inputs and task requirements for input to the Mortgage Workflow Engine **553** which automatically manages the task execution by various responsible parties.

In the process of managing the execution of the required tasks the Mortgage Workflow Engine **553** automatically communicates with parties having an interest in this loan via the Task Maintenance & Status Reporting Gateway **550** and communicates with various service providers via the Transaction Service Provider Gateway **555**. When the loan is finally closed (i.e. all designated tasks completed) this status is communicated to the Compensation & Task Performance Report system **557** for the generation of these reports. The loan completion status is also

communicated to the Secondary Banking & Loan Inventory Management system **563** which adds the completed loan data to the loan inventory and periodically, using a Secondary banking Engine **559**, optimally packages certain loans for transfer to secondary funding sources.

5 Having described a preferred embodiment and an alternative embodiment of the applicants invention, we now describe the major components in more detail. Figures 7 - 11 indicate the basic original entry into the automated system and shows the kinds of data that is inputted. These data are then processed as follows.

#### 10 The 'Loan Application Gateway'

Referring to **Fig. 33**, A loan originator, in any of several manifestations, may originate a mortgage loan request on behalf of a client, a 'borrower'. The 'Loan Application Gateway' provides for the Lender/Loan Originator to enter his data and borrower data **3401** and envisions at a minimum, three (3) ways by which the system may be accessed by a loan originator; (1) via Internet website **3405** of the assignee of the present invention, the data typically being in HTML format; (2) via custom-written software **3403** which connects in a data transmission-enabled manner to the present invention and would typically be in XML format; and (3) via 'wireless' devices, including web-enabled cell phones, wireless, modem-equipped hand-held or laptop computing devices, satellite communication devices, and other such wireless data and communication methods and devices **3407** as may come into common use, these data typically being in the WML or WAP formats, or other formats as may come into common use. The principle purpose of the 'Loan Application Gateway' **3400**, in serving as a portal, is to provide a way for the loan originator to exchange required data with to the "Loan Application System" without having to worry about what input method he is using and/or the related data formats and protocols. Consequently the major purpose of the input gateway is to perform the middleware tasks of - recognizing the input channel and data format and protocol used **3409** and convert the data to the standard Application Programming Interface (API) format **3411** which will be used by downstream modules. This standard Application Programming Interface

(API) format **3411** is described in more detail below in the section covering the Compliance Engine.

The input data originates from the input screens provided by the system. Upon making the connection to the OnePipeline system, the loan originator is presented with introductory screen sets ( Figures 7 - 12) and input screen sets (Figures 13 - 18) whereby the particular information which describes, to the OnePipeline system, the circumstances of the borrower, as well as the property under contemplation for purchase. Suitable reference and 'help' screens are made available to the loan originator to assist in the entry of required data. Notably, display information and on-screen prompts for data input are tailored to the nature and speed of the data link as well as the display limitations of the terminal device in use by the loan originator.

Referring to Figs. 7-18, such data or information is required for originating and underwriting a loan, and typically includes the following: a subscribing loan originator's identification Fig. 7, pertinent information sufficient to identify the pending borrower Fig. 13, and information on the subject property Fig. 14. The subscribing loan originator's identification Fig. 7, in turn, provides the present invention with a profile of the originator and the location of the property in question thereby providing sufficient information to facilitate authentication of the originator's qualification, according to regulations, to originate a loan, and other such information as is deemed necessary to logically connect the originator with agents, workers, or services which have been associated with the originator as 'loan affiliates'.

These 'affiliates' constitute a variety of resources which may be called upon on a loan-by-loan basis to provide services common in the industry, to the originator in order to complete the loan.

#### The Authentication System.

In a preferred embodiment of the system, a Lender may make use of the OnePipeline system merely to obtain the set of tasks required for a specific loan, including tasks required by applicable federal and/or state law, and to obtain a

Completion Certificate, or he may originate a loan through OnePipeline's network of Loan Originators also obtaining a Completion Certificate based upon the systems monitored performance of the required tasks involved. In either case the Loan Originator's qualifications are not verified by the Compliance Engine. That is, the Compliance Engine does not check the lenderID and property location to determine whether this Loan Originator is qualified to represent this loan applicant.

In an alternative preferred embodiment, this authentication of the loan originator/lender is performed. This process will now be described. Upon completion of data entry by the loan originator, the OnePipeline system launches a validation or 'authentication' process 403 in Fig. 4A and 503 in Fig. 5. The authentication module verifies the identity of the loan originator through the use of conventional means, a security 'login' typically requiring user names and passwords, which are programmatically verified as belonging to the loan originator. Various data security mechanisms may be incorporated in this subsystem as well, including the use of digital signatures as required. The completeness of the required input data is also verified. The Authentication module also authenticates the loan originator as being qualified to originate a loan for the property location specified. The module gets the loan originator and borrower input data 401 and calls the 'Compliance Engine' 405, to determine whether the loan originator can originate this loan. If the initial queries to the legal context databases (these are described in more detail below with respect to the compliance engine description) indicate that the loan originator is not qualified then this "not-qualified" data is returned to the loan originator. If the loan originator is found to be qualified to originate loans in the locality a "yes" is returned and the authentication module may instruct the Compliance Engine to complete a "worker profile" for this loan originator, borrower and property.

### The Automatic Compliance Engine

The Automatic Compliance Engine (the “**Compliance Engine**”), (458 in Fig. 4C and 520 in Fig. 5), is now described in a preferred embodiment. The Compliance Engine is called a number of times by several modules.

As described above, many government, professional, and business institutions impose requirements on land and mortgage lending transactions. A requirement can be the disclosure of specified information to the borrower, filling out a required form, or the gathering of specified information, to name a few. OnePipeline.com, Inc. retains the services of legal professionals throughout the country who continuously gather these requirements and organize them into a comprehensive rule base. The purpose of the Automated Compliance Engine is to apply these rules in an automated way to identify all requirements that apply to a specific loan and to track the completion of those tasks. The output of the engine is a task list comprised of all the tasks which the engine has determined need to be completed for a specific loan, augmented with task completion information for completed tasks.

In a preferred embodiment, the task list is prepared by selecting a subset of tasks from the list of all task definitions known by the Automated Compliance System. Tasks are selected by evaluating expressions written in a dynamically interpreted programming language that test facts pertaining to the specific loan information. If the expression evaluates to true, then all tasks associated with that expression are added to the task list. All of the expressions in the rule base are sequentially evaluated for each loan instance. The Automated Compliance Engine is thus a rule based system, where each expression represents the 'if' part of a rule, and the subset of tasks associated with the expression represents the 'then' part of a rule.

For example, the following is a set of tasks for a given context:

```
<context>
  <id>12</id>
  <name>Texas</name>
  <if>val('loan.property.address.state') == 'TX'</if>
  <then>
```

```

<taskName>TX Mortgage Broker/Loan Officer Disclosure</taskName>
<taskName>Property Disclosure--Seller to Buyer</taskName>
<taskName>TIL</taskName>
<taskName>URLA</taskName>
<taskName>Right to Receive Appraisal Disclosure</taskName>
<taskName>TX Residential Construction Contract Disclosure</taskName>
  </then>
</context>

```

5

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Once required tasks are identified, the engine applies lender task profiles in order to override task description, the URL to print a form, and other task information provided in the standard task definitions with more specific values from the Lender Task Profiles. This allows a high degree of flexibility in customizing the engine for specific lender requirements, including changing the wording of the description of the task or changing the form that must be filled out.

15

Once the task list has been initially prepared, it is presented to those persons responsible for completing the tasks. This may be as a simple task list transmission to a lender who is doing his own loan origination and/or processing and simply wants OnePipeline to monitor task completion, or it may be an automatic transmission to an automated workflow process engine. In a preferred embodiment, the automated workflow process engine may be Framework™ Inc.'s "Lendware™" program or a functional equivalent, such as one based on Forte Software™ Inc.'s Forte Conductor™ product. In this case the Workflow process engine presents the tasks to the persons identified as being responsible for doing the task.

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As each task is completed, the Compliance Engine receives notice of the completion event and the task list is updated to include the identification of the person completing the task and the date and time of completion. The task list is considered completed when all required tasks have a completion date.

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Compensation may be issued to those who performed specified tasks with assurance that all required tasks have been completed and that the compensation is within the bounds of the laws and policies of the participating institutions.

### Data Representation

In the preferred embodiment, all Compliance Engine inputs and outputs are represented externally in Extended Markup Language format (XML) which is described in the document found at [www.w3.org/TR/1998/REC-xml-19980210](http://www.w3.org/TR/1998/REC-xml-19980210) which is incorporated fully herein by reference. XML provides an extensible hierarchical data structure where each element of information is labeled with a tag and optionally contains a value and any number of child elements. Internally, the same information is represented and manipulated in a standard tree format using the Document Object Model tree (DOM) which is described in the document at [www.w3.org/TR/REC-DOM-Level-1/level-one-core.html#ID-1590626202](http://www.w3.org/TR/REC-DOM-Level-1/level-one-core.html#ID-1590626202) and which is incorporated fully herein by reference. Conversion between internal and external representation is provided by output methods of the DOM tree implementation and input methods of the Java API for XML Parsing (JAXP) which is described in the document at the URL [java.sun.com/xml/docs/api/](http://java.sun.com/xml/docs/api/) which is incorporated fully herein by reference.

For convenience in referring to DOM tree elements, but not of necessity, the tree implementation is extended to provide easier tree traversal using a simple "get(String path)" method that takes a path argument such as 'task.name'. The tags between the dots '.' are parsed out of this path and used to search for corresponding elements in the tree. In this example, the get method searches for the first-occurring element of the tree with tag "task". Once found, the get method then searches for the 'name' tag among the child elements of the 'task' element, and so on for all the tags listed in the path. Further descriptions herein will use this path notation to refer to specific data elements in the data model trees defined below.

Alternative ways to represent and access the information could include files, objects, database records, arrays, structs, TCP/IP socket streams, 'if-then-else' statements in a programming language, or other ordinary means for representing structured information.



### Data Mode

In recognition of the need to automate as many of these activities as possible, to the mutual advantage of the real estate and mortgage loan community, the Mortgage Bankers Association of America (MBAA) recently originated an effort to develop data structure standards to provide standardization of common business transactions in the mortgage industry. This effort is coordinated by a workgroup of mortgage industry representatives and is called the Mortgage Industry Standards Maintenance Organization (MISMO). Initial deliverables of MISMO include 1) an XML Transaction Architecture to encompass data exchanges from loan origination, the secondary market and servicing; 2) a data dictionary to provide business definitions and corresponding tag names of each of the data elements included in the architecture; and 3) a data model to provide relationships between the elements in the business data. The current versions of these deliverables are contained at [www.mismo.org](http://www.mismo.org) and are fully incorporated herein by reference.

This description refers to the detailed data model in the MISMO web site mentioned above ([www.mismo.org](http://www.mismo.org)) . The Data Model is described therein as follows:

“The Data Model is a tool used to understand the relationships between the data elements in the data dictionary. It is a reference to aid in building the XML DTD's. This is not the XML implementation of the MISMO Standard..”

#### MISMO Data Model Documentation

- Address
- Address Definitions
- Agreement
- Agreement Definitions
- Entities Attributes
- Entity Listing
- MBA Data Model
- Credit Report

- Party
- Party Credit Definitions
- Party Declarations Definitions
- Party Finance
- Party Finance Item Definitions
- Party Person Definitions
- Product
- Product Definitions
- Property
- Property Definitions
- MBADDataModel\_v1.ER1

The Compliance Engine XML/HTTP Transaction API described below includes Example values for clarification.

The core knowledge of compliance requirements is represented in the 'rules' structure, consisting of 'rules.contexts' and 'rules.operations'. Each 'rules.contexts.context' represents an if/then rule, where the 'context.if' part describes a specified loan situation (context), and the 'context.then' part is a list of 'taskname' references to the tasks that are required in that context. Each 'context.if' definition is expressed in a programming language statement that examines the facts of a specific loan and evaluates to true or false, as described in the algorithm description below.

Each 'rules.operations.task' defines detailed information about a specific task, independent of the contexts in which it may be required. This information includes a description of the task, a URL link to any forms that may be required for the task, a time period within which the task is expected to be completed, and potentially other information pertinent to a task. References from the context structure in each 'rules.contexts.context.then.taskname' are matched with the corresponding name in 'rules.operations.task.name'. In this manner, a detailed

task definition is associated with one or more specific contexts, by task name reference.

This separation between tasks and contexts is a convenience that allows a task to be defined in a single place yet be associated with multiple contexts.

Alternatively, the 'rules.operations' list could be eliminated by replacing every 'rules.contexts.context.then.taskname' with an equivalent 'task' structure as presently defined in 'rules.operations.task', although many of the tasks would need to be defined and maintained redundantly in this mode.

Elements of a 'rules.operations.task' definition may be overridden by a corresponding element in an 'override.tasks.task' definition whose 'rules.operations.task.name' matches the 'override.tasks.task.name'. This allows customization by supplying customer-specific information in the task definition, such as a customer-specific form, description in more familiar language, or any other task definition element. Any number of 'override' structures may be applied in sequence, each overriding the result from the previous 'override' application. This allows overrides from customers, and their brokers, agents, and other affiliates to be applied in any desired priority ordering that ultimately determines which override changes will be final. The method of applying the override information is described in the algorithm below.

The 'loan' structure contains all the information pertaining to a specific loan application. The loan application contains information about the borrower, the property to be mortgaged, its location, the loan amount, and the type of loan applied for. This is the information that is evaluated by the 'rules.contexts.context.if' expression to determine whether the conditions specified in the context definitions are true in the case of a specific loan.

### **Compliance Engine XML/HTTP Transaction API**

The Compliance Engine Application Program Interface (API) defines structures for communication between the Automated Compliance Engine and the external environment. The request is initiated by an external agent with accompanying request parameters described below, and the response is a complete Task Status Report consisting of the 'tasks' list output of the engine plus

the completion information of completed tasks. Each output 'tasks.task' defines a task that the engine has determined is required in the case of the specified loan. The list will typically be a subset of all defined tasks. Each task includes the detailed task definition information from 'rules.operations.task', with some elements possibly overridden by corresponding task override information from 'override.tasks.task'.

Data is exchanged via pre-authenticated HTTP in XML format (DTD available). It is presented in indented format for readability. All XML elements are required.

The lender must provide, for each loan product, a description containing the product attributes that are required for compliance analysis, such as whether ARM, fixed, balloon, index, etc. Each loan application is linked to this information via the loanProductId compliance parameter, described below. This must be updated whenever the product attributes change.

The MISMO standard mentioned above contains most of the information required by the Compliance Engine to perform its work, but not all. The key missing pieces are the type of loan product the borrower is applying for, and the lender and agent identification.

Loan products differ from each other in terms of whether they are adjustable rate (ARM) or fixed, whether the rate is tied to T-bills or some other index, whether there is a Balloon payment, whether the property will be owner occupied or rented out, whether there is cash out or not, etc.

The loan product information is complex, and there are several compliance rules that arise out of different characteristics of the lender's loan product. In a preferred embodiment, rather than try to identify all facets of the loan product in a structured way and apply rules each time those facets are examined, instead, the loan product information is analyzed by hand, one time, up front, and a decision is made as to what compliance tasks are required for that type of loan. Then when it's time to generate a task list, there is a single rule that indicates if you have loan product type XYZ then you must do tasks 1, 2, and 3. The main piece of

information that is not provided by MISMO is the loan product ID, which is the id given the loan product by a lender.

Besides the loan product ID, the compliance API also requires the lender id, which is used in conjunction with the loan product id to fully identify the loan product, and it also tells us where the loan originator's pay will come from, which lender profile to apply, the lender to send notifications to, etc. The API also requires the loan originator agent id, which identifies who the loan originator is so he/she can be paid appropriately when that time comes. The loan originator id is assigned by OnePipeline.

The lender may also provide a task list profile that defines override values for task.description and task.form for any task. These values override the OnePipeline default values for these fields, if present. This allows lenders to describe tasks in their preferred terminology and to use their own forms, subject to compliance requirements.

These data provided via the Loan Application Gateway 3400 (described above) include the following exemplary type data:

#### **New Task List Transaction**

This transaction creates a new loan compliance record in the OnePipeline compliance database, and creates the task list.

#### **Input:**

```
complianceRequest
  requestType newTaskList      //same as HTTP Request-line URI resource
  lender (loan)
    lenderId                   //onpipeline assigned
    lenderLoanId               //lender assigned
    agentId                    //loan originator, onpipeline-assigned agentId
  loan                         //loan compliance parameters.
    loanOriginationFee         //$. Requires review if over 1% of loanAmount.
    loanProductId              //must match id in lender-provided product
                                spec.
    loanAmount
    propertyType               //single, multiple, occupied, etc., from list
    financingOptions            //cash out, refinance, purchase, etc., from list
    state                       //property location, 2-letter state code
```

**Output:** Task Status Report (see below)

**Update Transaction**

5            This transaction updates the loan compliance record when one or more tasks are completed, or when loan compliance parameters are changed. If loan compliance parameters are changed, a new task list is generated, and the old one is moved to the taskListArchive section. Task completion information is retained in both the current task list and in the archived task lists.

**Input:**

10           complianceRequest  
             requestType update  
15           lender (loan)  
             lenderId  
             lenderLoanId  
             tasks  
             task  
20                   taskId                   //matches taskId from task in task list  
                 agentId                   //onpipeline agent id  
             completedDate                   //date and time in SQL format  
             task  
                 taskId  
25                   agentId  
                 completedDate  
             ...  
             loan  
                 loanOriginationFee                   //\$. Requires review if over 1% of  
30     loanAmount.  
                 loanProductId                   //must match id in lender-provided product spec.  
             loanAmount  
35                   propertyType                   //single, multiple, occupied, etc., from list  
                 financingOptions                   //cash out, refinance, purchase, etc., from list  
                 state                   //2-letter postal state code: NY, CA, TX, etc.  
                 selfEmployed                   //Y or N

**Output:** Task Status Report (see below)

**Task Status Report Transaction**

**Output:**

Format and structure is the same for all transaction types. When changed loan compliance parameters require regenerating the task list, old task lists are preserved in the taskListArchive section. Completion information is present only for completed tasks, in both tasks and taskListArchive sections.

```

complianceResponse
  requestType taskStatusReport
  httpStatus                                     //Same as HTTP response code. Success: 200 OK

  lender (loan)
    lenderId
    lenderLoanId
  date                                     //status report date and time in SQL format
  tasks
    task
      taskId                                     //onepipeline unique task id number
      taskName                                   //onepipeline unique task name
      displaySequence
      lenderTaskName
      description                               //may be overridden via lender profile
      form                                       //.PDF printable form URL. May be overridden.
      stepNumber                               //HUD step 1, 2, 3, 4, or 5
      completion                               //Present only for completed tasks
        agentId                               //onepipeline agent id
        completedDate                         //date and time in SQL format
    task                                       //same as above
    ...
  taskListArchive
    archiveDate (date)                         //date moved into taskListArchive
    date                                       //task list creation date and time, in SQL
  format
    lender (loan)                             //same as lender structure above, as of date
    ...
    tasks                                     //same as tasks structure above, as of date
    ...

    loan (loanProductData) //same as request, with replaced loanProductId
  information
    ...
    archiveDate (date)
    ...
    stepCompletion (completion)
    step (stepNumber x)

```

```

        stepNumber      //HUD steps 1, 2, 3, 4, and 5
        complete        //Y or N
        feePercent      //percentage to be paid for this step
        fee             //feePercent * loanOriginationFee, $
        agentId         //onpipeline agent id if agent completed
        agentPayable    //fee $ if agent completed, else zero
    step               //same structure as above
    ...
    step
    ...
    step
    ...
    step
    ...

```

### Algorithm

Refer to the description of XML, JAXP, and DOM in the data representation description above, and to the data model description and detail data model elements also described above.

At startup, the Automated Compliance Engine reads the XML-formatted 'rules' from external storage into memory. This XML stream is parsed by the JAXP parser into a DOM internal tree. For each 'rules.operations.task', the 'task.name' is used as a key in adding task detail definition elements to a java.util.Hashtable to enable looking up a task definition by 'task.name'.

Similarly, an array is loaded with each 'task' indexed by 'task.id', to enable looking up each task by the unique 'task.id' integer value. A separate hashtable is loaded with task override information for each lender, again using the 'task.name' as the key. Also, a socket connection to a network is opened by a web server or other HTTP service to enable Compliance Engine users to submit requests to the Compliance Engine server and to return responses. HTTP socket connections are describer described in the document found at [www.w3.org/Protocols/rfc2616/rfc2616.html](http://www.w3.org/Protocols/rfc2616/rfc2616.html) and which is incorporated fully herein by reference.

Once initialized, the Compliance Engine server operates in a stateless request-response fashion, similar to a web server, following the HTTP protocol. Alternative protocols could be used. The request and response are both formatted



externally in XML format, and internally in DOM trees, as described in the data representation description above.

The Compliance Engine API provides for three different request types: New Task List, Task Completion, and Task Status Report. These are described below. The response in all cases is a Task Status Report containing a 'tasks.task' list. The remainder of this algorithm section describes how the task list is created or updated in response to these requests.

The Compliance Engine also incorporates an 'event generation mechanism', the purpose of which is to trigger actions upon the occurrence of specified events. These events may include a 'pushed' report where a task list is periodically updated according to specified parameters and delivered.

### **New Task List**

The New Task List request consists of a 'loan' structure that contains information about a specific loan sufficient to determine which compliance tasks are required.

The 'tasks.task' list is prepared as follows. Each 'rules.contexts.context.if' expression is evaluated, one at a time, in a loop from first to last. The 'if' expression is written in the JPython programming language, which is an interpretive scripting language that can evaluate string expressions at runtime. The Python Programming Language is described in the book "Internet Programming with Python" by Aaron Waters, Guido van Rossum and James C. Ahlstrum, M & T Books (Div. of Henry Holt & Co.) 1996, which is incorporated herein by reference. Other languages could be used. The expressions typically reference a specific element in the 'loan' structure to see if the element contains a specific value.

For example, to determine if the loan property is in the state of Utah, the expression could be "val('loan.property.address.state') == 'UT'". The "val()" method takes a string describing a path into a DOM tree, and returns the first value of the first DOM node found on that path. If the actual value of the 'loan.property.address.state' node of a specific loan was 'UT', the expression evaluates to true, otherwise false. When such an 'if' expression evaluates to true,

all of the associated 'rules.contexts.context.then.taskname' references are followed by using the 'taskname' value as a key to look up the referenced task detail definition through a java.util.Hashtable populated at startup.

After finding the task detail in the hashtable, the

5 'rules.operations.task.name' task detail definition structure could be copied directly to an output task list; however, for convenience in the preferred embodiment, the integer value of the included 'rules.operations.task.id' element is used to set a corresponding bit in a java.util.BitSet. This 'id' integer value is unique for each task in the 'rules' set. After all rules have been evaluated and all

10 applicable bits are set, the resultant BitSet contains a true bit for every task with a true 'if' expression. The BitSet thus represents the subset of all tasks which the Compliance Engine has determined to be required in the case of the specified loan. The purpose of this BitSet representation is to allow, in the future, rapid and simple boolean operations (and, or, or not operations on the BitSet) to combine

15 task lists from different rule sets to improve flexibility and/or increase performance. One way to increase performance, for example, is to create a BitSet at startup time from a rule set that contains contexts that are always true for every loan. This initially created BitSet can be combined with the dynamically created BitSet using a bitwise 'and' operation in a manner that avoids unnecessary re-

20 evaluation of some rules.

Once a final BitSet is constructed, the program loops through each bit in the BitSet, and where a true bit is found in a particular bit position, the bit position is used as the index to retrieve the corresponding 'task' definition structure from the array that was indexed at startup time using the matching 'task.id' integer

25 value. This 'task' detail definition structure is then copied and the copy appended to the DOM output tree containing the output task list.

After constructing the list of task detail definitions for all required tasks, the task override information is applied. This is accomplished by iterating through each task on the output task list, and looking up the task override

30 information for the lender specified in the request. If a task override structure is present in the table, then the program loops through each element in the override

structure task definition and replaces the corresponding element in the output task definition. For example, if the override task structure includes a lender-provided task description, then the value of that description is copied over the top of the more generic description from the original rules structure.

5

### **Exemplary task list**

An exemplary task list generated by the Compliance Engine in a preferred embodiment is as follows:

```

10  <?xml version="1.0" encoding="UTF-8"?>
    <rules>
      <contexts>
        <context>
15      <id>1</id>
        <name>all loans</name>
        <if>true</if>
        <then>
20      <taskName>GFE</taskName>
        <taskName>Transfer of Servicing Disclosure</taskName>
        <taskName>FLN</taskName>
        <taskName>ECOA</taskName>
        <taskName>Flood Insurance Disclosure</taskName>
        </then>
25      <phase />
        </context>
        <context>
          <id>57</id>
          <name>Wyoming</name>
30      <if>state('WY')</if>
          <then>
            <taskName>TIL</taskName>
            <taskName>URLA</taskName>
            <taskName>Right to Receive Appraisal Disclosure</taskName>
35      <taskName>Finance/Lock-in Disclosure</taskName>
          </then>

```

```

    </context>
    <context>
      <id>12</id>
      <name>Texas</name>
5      <if>val('loan.property.address.state') == 'TX'</if>
      <then>
        <taskName>TX Mortgage Broker/Loan Officer Disclosure</taskName>
        <taskName>Property Disclosure--Seller to Buyer</taskName>
        <taskName>TIL</taskName>
10      <taskName>URLA</taskName>
        <taskName>Right to Receive Appraisal Disclosure</taskName>
        <taskName>TX Residential Construction Contract
Disclosure</taskName>
      </then>
15    </context>
    <context>
      <id>103</id>
      <name>Texas and Loan Amount > 50000</name>
      <if>((val('loan.property.address.state') == 'TX') &
20    (ival('loan.loanAmount') > 50000))</if>
      <then>
        <taskName>TX Commitment/Lock-in Disclosure</taskName>
      </then>
    </context>
25  </contexts>
  <operations>
    <task>
      <id>56</id>
      <name>TX Commitment/Lock-in Disclosure</name>
30      <description>The borrower must receive a Commitment/Lock-in
Disclosure form.</description>
      <form>http://forms.onePipeline.com/TX_Commitment_Lock-
in_Disclosure.pdf</form>
      <role>originator</role>
35      <feePercent>15</feePercent>
    </task>
    <task>
      <id>3</id>

```

<name>TIL</name>  
 <description>The borrower must receive the Truth In Lending  
 disclosure.</description>  
 <form></form>  
 5       <feePercent>15</feePercent>  
       <role>originator</role>  
 </task>  
 <task>  
       <id>1</id>  
 10       <name>URLA</name>  
       <description>The borrower(s) must sign and return the  
 completed Uniform Residential Loan Application.</description>  
       <form>http://forms.onePipeline.com/FNMA\_1003.pdf</form>  
       <role>originator</role>  
 15       <feePercent>10</feePercent>  
 </task>  
 <task>  
       <id>2</id>  
       <name>GFE</name>  
 20       <description>The borrower must receive the Good Faith  
 Estimate.</description>  
       <form>http://forms.onePipeline.com/Good\_Faith\_Estimate.pdf</form>  
       <feePercent>10</feePercent>  
 25       <role>originator</role>  
 </task>  
 <task>  
       <id>4</id>  
       <name>Transfer of Servicing Disclosure</name>  
 30       <description>The borrower must complete, sign, and return  
 the Transfer of Servicing Disclosure Statement prior to  
 closing.</description>  
       <form>http://forms.onePipeline.com/Servicing\_Disclosure\_552R.pdf</  
 35       form>  
       <role>originator</role>  
       <feePercent>5</feePercent>  
 </task>

<task>  
     <id>6</id>  
     <name>FLN</name>  
     <description>The borrower must receive the Fair Lending  
 5 Notice.</description>

<form>http://forms.onePipeline.com/Fair\_Lending\_Notice.pdf</form>  
     <feePercent>5</feePercent>  
     <role>originator</role>  
 10 </task>  
 <task>  
     <id>7</id>  
     <name>ECOA</name>  
     <description>The borrower must receive the Equal Credit  
 15 Opportunity Act disclosure.</description>

<form>http://forms.onePipeline.com/Equal\_Credit\_Opportunity\_Act\_Di  
 sclosure.pdf</form>  
     <feePercent>5</feePercent>  
     <role>originator</role>  
 20 </task>  
 <task>  
     <id>8</id>  
     <name>Flood Insurance Disclosure</name>  
 25 <description>The borrower must receive the Flood Insurance  
 Disclosure.</description>

<form>http://forms.onePipeline.com/Flood\_Insurance\_Disclosure.pdf<  
 /form>  
 30 <role>originator</role>  
     <feePercent>10</feePercent>  
     <originatorDays>30</originatorDays>  
 </task>  
 <task>  
 35 <id>5</id>  
     <name>Right to Receive Appraisal Disclosure</name>  
     <description>The borrower must receive the Right to Receive  
 Appraisal Disclosure.</description>

<form>http://forms.onePipeline.com/Right\_To\_Receive\_Appraisal.pdf</form>

5       <role>originator</role>  
      <feePercent>0</feePercent>  
      </task>

      <task>  
          <id>10</id>  
          <name>Finance/Lock-in Disclosure</name>  
10       <description>The borrower must receive the Finance/Lock-in  
Disclosure.</description>

<form>http://forms.onePipeline.com/Finance\_Lock\_in\_Disclosure.pdf</form>

15       <role>originator</role>  
      <feePercent>0</feePercent>  
      </task>

      <task>  
          <id>55</id>  
20       <name>TX Mortgage Broker/Loan Officer Disclosure</name>  
      <description>The borrower must receive a Mortgage  
Broker/Loan Officer Disclosure.</description>

25       <form>http://forms.onePipeline.com/TX\_Mortgage\_Broker\_Loan\_Officer  
\_Disclosure\_1048TX.pdf</form>

      <feePercent>5</feePercent>  
      <role />  
      </task>

30       <task>  
          <id>54</id>  
      <name>Property Disclosure--Seller to Buyer</name>  
      <description>The property disclosure must be completed and  
kept with loan documents.</description>

35       <form>http://forms.onePipeline.com/Property\_Disclosure\_Seller\_to\_B  
uyer.pdf</form>

      <role>originator</role>  
      <feePercent>0</feePercent>

</task>  
 <task>  
   <id>211</id>  
   <name>TX Residential Construction Contract Disclosure</name>  
   <description>The borrower must receive the TX Residential  
 Construction Contract Disclosure, which is to be provided by the  
 contractor for new construction.</description>  
  
 <form>http://forms.onePipeline.com/TX\_Residential\_Construction\_Con  
 tract\_Disclosure.pdf</form>  
   <role>originator</role>  
   <feePercent>0</feePercent>  
 </task>  
 </operations>  
 </rules>  
  
 </overrides>  
   <tasks>  
     <task>  
       <name>TX Mortgage Broker/Loan Officer Disclosure</name>  
       <description>Execute ABC Company Loan Officer  
 Disclosure.</description>  
  
     <form>http://forms.ABC.com/ABC\_Loan\_Officer\_Disclosure.pdf</form>  
       <role>Loan Originator</role>  
     </task>  
     <task>  
       <name>TX Residential Construction Contract Disclosure</name>  
       <description>The borrower must receive the ABC Company  
 Residential Construction Contract Disclosure.</description>  
  
     <form>http://forms.ABC.com/ABC\_Residential\_Construction\_Contract\_D  
 isclosure.pdf</form>  
     </task>  
   </tasks>  
 </override>



In a preferred embodiment, the original compliance task list for a specific loan is transmitted to the lender for Compliance Management or passed to an automated workflow engine to initiate the dynamic workflow process. **Figures 37-41** contain a set of system screen shots showing an exemplary list of tasks required to complete a sample loan.

#### **An alternative embodiment**

In an alternative embodiment, a more general compliance system may be used, and is now described with reference to **Figure 5**. Referring now to **Fig. 5**, the 'Originator and Processor Compliance Engine' **520** is comprised of two principle elements - the 'Worker Description' **521** and the 'Legal Context' **523**. These elements are described in their preferred embodiments as follows:

The 'Worker Description' **521** comprises an assemblage of data sources which define the types **525**, roles **527** and locations **529** of the workers or agents which may participate in the mortgage origination process. The participation decision for a worker or agent is based upon the combination of features which the worker embodies and which make them unique when combined one with another. In the preferred embodiment, the worker provides a data profile representative of the worker's type - that is, the type of service the worker may provide. The worker is typically representative of only one 'type' for example, either a 'Real estate sales professional', 'mortgage broker', 'banker', etc.. The specific 'role(s)' that a particular worker or agent has in the process is/are also defined. The 'role(s)' that a worker assumes are aligned with the tasks requiring completion which a worker of that type can legitimately perform, according to the governing rule base for that specific worker type. These 'roles' may include such tasks as surveys, inspections, credit worthiness checks, employment verification, etc.. Orchestrating the interrelationship of these information sources is a 'Role Sequencing' definition or data table which assures a meaningful, orderly, and legal application of the available data. Those skilled in these arts will understand that various methods similar to those described above in a preferred embodiment could be used for such sequencing activities. In an exemplary process the data passed from the Authentication module includes the loan originator used ID. This

user ID is used as an argument to find the recorded worker type in the Worker's description databases where a user ID1, for example, would produce a Type ID1. This type ID1 would then be used to find the corresponding roles for this type of user and to determine the locations where this user id is licensed/qualified to do business. These data are written into a 'worker's profile' structure.

Referring again to **Figure 5**, the 'Legal Context' **523** could comprise an assemblage of data sources which would contain the regulatory elements pertinent to the compliance and underwriting process as required by the 'Originator and Processor Compliance Engine' **520**. Included in this element would be tables and other data sources which are typically comprised of state and county regulations **531** similar to those described above with reference to the preferred embodiment, licensing regulations **533**, federal regulations **535**, and professional organizational rules **539**, all of which may govern or otherwise influence the underwriting process. Orchestrating the interrelationship of these information sources would be a 'Rule Sequencing' engine **541** which assures a meaningful, orderly, and legal application of the available data. When the 'Rule Sequencing' data table and 'Rule Sequencing' **541** engines have completed the required processing, a profile **543** or a composite of the borrower requirements and property profile with applicable worker attributes is made available to the other modules as required (i.e. the Authentication module, Loan Origination module, workflow engine, and Task maintenance & status reporting gateway module).

#### The 'Loan Application & Program Matching System'

Referring again to **Figure 4C**, the 'Loan Origination & Program Matching System' **456**, (also see **505** in **Fig. 5**) is comprised of a multiplicity of sub-systems, to be later described. After this loan originator has been 'authenticated' as described above, this system serves as an infrastructure to identify various loan products or instruments suitable for this unique combination of borrower and property, and further offering a preferred recommendation of loan products and participating workers or agents to effect the loan. The system communicates with

the loan originator and requires him to complete the actions and provide the additional borrower data and instructions shown in Figures 12 - 17.

As indicated above, in the preferred embodiment of the invention, this Loan Application & Program Matching System' is preferably performed by a system such as GHR Systems™ making use of their PremierWare™ product. This GHR product is also an object oriented product, however the objects employed are Microsoft COM™ objects which require Windows NT™. The web server architecture of applicants system is UNIX based which necessitates using Java and the Common Object Request Broker (CORBA) system to communicate between the UNIX and COM based object systems. The architecture of this communications interface is described below with reference to **Figure 34**.

With reference to Onepipeline's use of this PremierWare™ product, the following description pertains. The input and output data elements that play a role in OnePipeline.com, Inc.'s use of the GHR Underwriting Framework known as PremierWare are now described. OnePipeline implemented the framework within a distributed architecture encompassing several technologies including Java, CORBA, COM, and Delphi (Object Pascal). First, how the GHR components interact with each other are described, followed by the OnePipeline implementation around that interaction.

GHR Systems' PremierWare framework is a set of software components that adhere to the component object model (COM) sponsored by Microsoft. Inc. The framework is provided to facilitate the qualification of borrower credentials, i.e., income, debts, etc., against mortgage loan programs. The desired result being to locate a loan program for which the borrower is qualified. The framework is functionally divided internally representative of three primary operations:

- Product Filtration: Narrowing the number of programs available for qualification processing.
- Qualification: Extracting the programs for which the borrower is qualified to apply.
- Ancillary Utilities (Helping): Packaging and unpacking data as it moves in and out of the GHR API.

### Product Filiration

If no product filtering is performed before qualification, then qualification processing is completed on all products in the GHR products database. Filter criteria can be set using any or all of the data elements below:

5

GHR Term	Date Type
LenderID	String (bstr)
MaxReturnedProduct s	Integer
Modbits	Integer
PropertyState	String i.e., 'UT'
PropertyCounty	String
PropertyZip	String
LockType	Integer
LockDays	Integer
PricePreference	Integer
SpecificRate	Integer
SpecificPoints	Integer
AllLoans	Boolean
FHALoans	Boolean
VALoans	Boolean
ConventionalLoans	Boolean
FixedRateMortgages	Boolean
AdjustableMortgages	Boolean
BaloonMortgages	Boolean

The result of a Product Filtering operation is a set of loan programs that serve as the input to a Qualification operation. Within the framework, the Pricer object's GetProductsForQualification method is used to perform a filtering

operation. Once a set of loan programs is received from  
GetProductsForQualification, then qualification can commence.

### Qualification

The first step in qualification is selecting a Qualification Method. There are fourteen methods in total, which are grouped into four Modes. The four Modes are:

- Buyer/Purchase
- Cash out Refinance
- No Cash out Refinance
- Shopper

The methods of Qualification are listed below by Mode:

Buyer/Purchase	Cash out Refinance	No Cash out Refinance	Shopper
BuyerBaseLoan	CashoutRefiMaxCashout	NoCashRefiInclFee	Shopper
BuyerAvailableCash	CashoutRefiSpecifyCashout	NoCashRefiSpecifyLoan	
BuyerMaxLoan	CashoutRefiSpecifyLoanAmt	NoCashRefiSpecifyLTV	
BuyerBaseLTV	CashoutRefiSpecifyLTV	NoCashRefiNoCostRefi	
BuyerDesiredPITI			

The grids below and on the following pages outline these modes and the various methods available in each Mode with each method's input parameters. There is a core set of input parameters that are used for all methods, and then under each method, there are one or more variations that are indicated in context.

<b><i>Buyer/Purchase Mode</i></b>	
<b>BuyerBaseLoan Qualification Method</b>	
Qualifies a borrower for a specific property (i.e. sale price is known).	
<b>GHR Term</b>	<b>Date Type</b>
ProgramID	String
PGC (Product Group Code)	String
RequestedRate	Integer 8125=8.125 %

RequestedPoints	Integer 1250=1.250 pts
RequestedCeiling	Integer 8125=8.125 %
RequestedMargin	Integer 8125=8.125 %
BaseLoan	Integer
Income	Integer
MonthlyDebt	Integer
CurrentHsgExpense	Integer
YearsExpectedinHouse	Integer
EstimatedCloseDate	String
IgnoreIncomeRatios	Boolean
OverrideRatios	Boolean
FrontRatioOverride	Boolean
BackRatioOverride	Boolean
EstimatedTaxDollars	Integer
EstimatedHazInsDollars	Integer
VAStatus	Integer
AssociationFee	Integer
FICOScore	Integer
FICOREjectCode1	String
FICOREjectCode2	String
FICOREjectCode3	String
State	String
County	String
Zip	String
Modbits	Integer
SalePrice	Integer

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<i>Buyer/Purchase Mode</i>	
<b>BuyerAvailableCash Qualification Method</b> Qualifies a borrower based on his/her cash available for closing. All items are the same as the BuyerBaseLoan except 'BaseLoan' is replaced by 'AvailableCash'.	
<b>GHR Term</b>	<b>Date Type</b>
AvailableCash	Integer

<i>Buyer/Purchase Mode</i>	
<b>BuyerMaxLoan Qualification Method</b> Qualifies a borrower for the maximum loan amount. All Properties are the same as the BuyerBaseLoan except BaseLoan is removed.	

<i>Buyer/Purchase Mode</i>	
<b>BuyerBaseLTV Qualification Method</b> Qualifies a borrower based on the percentage of download payment. All Properties are the same as the BuyerBaseLoan except BaseLoan is replaced by BaseLTV.	
<b>GHR Term</b>	<b>Date Type</b>
BaseLTV	Integer

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<b><i>Buyer/Purchase Mode</i></b>	
<b>BuyerDesiredPITI Qualification Method</b> Qualifies a borrower based on his/her desired monthly combined principle, interest, taxes, and insurance payment. All Properties are the same as the BuyerBaseLoan except BaseLoan is replaced by DesiredPITI.	
<b>GHR Term</b>	<b>Date Type</b>
DesiredPITI	Integer

<b><i>Shopper Mode</i></b>	
<b>Shopper Qualification Method</b> Qualifies a borrower who is shopping for a house and does not have a specific property. Also known as “affordability analysis.” All Properties are the same as the BuyerBaseLoan except BaseLoan is removed but MaxLTV, MaxPITI, and AvailableCash are added as well as two percentage fields: EstimatedTaxesPercent and EstimatedHazInsPercent and a MaxPointsAsGift field.	
<b>GHR Term</b>	<b>Date Type</b>
AvailableCash	Integer
MaxPITI	Integer
MaxLTV	Integer
EstimatedTaxesPercent	Integer
EstimatedHazInsPercent	Integer
MaxPointsAsGift	Integer

<b><i>No Cash Out Refi Mode</i></b>		
<b>NoCashRefiInclFee Qualification Method</b> Qualifies a borrower with a loan amount that includes the original mortgage balance and closing costs.		
<b>GHR Term</b>	<b>Date</b>	



	Type	
ProgramID	String	Defined in Buyer Mode
PGC	String	Defined in Buyer Mode
RequestedRate	Integer	Defined in Buyer Mode
RequestedPoints	Integer	Defined in Buyer Mode
RequestedCeiling	Integer	Defined in Buyer Mode
RequestedMargin	Integer	Defined in Buyer Mode
Income	Integer	Defined in Buyer Mode
MonthlyDebt	Integer	Defined in Buyer Mode
CurrentHsgExpen	Integer	Defined in Buyer Mode
YearsExpectedin House	Integer	Defined in Buyer Mode
EstimatedCloseDate	String	Defined in Buyer Mode
IgnoreIncomeRatios	Boolean	Defined in Buyer Mode
OverrideRatios	Boolean	Defined in Buyer Mode
FrontRatioOverride	Boolean	Defined in Buyer Mode
BackRatioOverrid	Boolean	Defined in

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e		Buyer Mode
EstimatedTaxDollars	Integer	Defined in Buyer Mode
EstimatedHazInsDollars	Integer	Defined in Buyer Mode
VAStatus	Integer	Defined in Buyer Mode
AssociationFee	Integer	Defined in Buyer Mode
FICOScore	Integer	Defined in Buyer Mode
1 FICOREjectCode	String	Defined in Buyer Mode
2 FICOREjectCode	String	Defined in Buyer Mode
3 FICOREjectCode	String	Defined in Buyer Mode
ce1 CurrentMtgBalan	Integer	
ce2 CurrentMtgBalan	Integer	
ce3 CurrentMtgBalan	Integer	
CurrentMtgRate1	Integer	
CurrentMtgRate2	Integer	
CurrentMtgRate3	Integer	
CurrentMtgPITI1	Integer	
CurrentMtgPITI2	Integer	
CurrentMtgPITI3	Integer	
CurrentMtgRemai	Integer	

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ningTerm1		
CurrentMtgRemai ningTerm2	Integer	
CurrentMtgRemai ningTerm3	Integer	
CurrentMtgELOC _2 <sup>nd</sup>	Boolean	
CurrentMtgELOC _3 <sup>rd</sup>	Boolean	
CurrentMtgToBe PaidOff1	Boolean	
CurrentMtgToBe PaidOff2	Boolean	
CurrentMtgToBe PaidOff3	Boolean	
InvestmentRate	Integer	
OrigLastWithdra wal_2 <sup>nd</sup>	String	
OrigLastWithdra wal_3 <sup>rd</sup>	String	
State	String	Defined in Buyer Mode
County	String	Defined in Buyer Mode
Zip	String	Defined in Buyer Mode
Modbits	Integer	Defined in Buyer Mode
SalePrice	Integer	Defined in Buyer Mode

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<i>No Cash Out Refi Mode</i>	
<b>NoCashRefiSpecifyLoan Qualification Method</b> Qualifies a borrower with a specified refinance loan amount. All properties from NoCashRefIncludeFee remain in addition to BaseLoan.	
<b>GHR Term</b>	<b>Date Type</b>
BaseLoan	Integer

<i>No Cash Out Refi Mode</i>	
<b>NoCashRefiSpecifyLTV Qualification Method</b> Qualifies a borrower with a specified percentage of existing loan balance. All properties from NoCashRefIncludeFee remain in addition to BaseLTV.	
<b>GHR Term</b>	<b>Date Type</b>
BaseLTV	Integer

<i>No Cash Out Refi Mode</i>	
<b>NoCashRefiNoCost Qualification Method</b> Qualifies a borrower with a rate—points combination that allows the closing cost to be insulated from the borrower. In general, negative points are awarded to provide “cash-back” to the borrower, which is applied toward closing costs. All properties from NoCashRefIncludeFee remain in addition to BaseLoan.	
<b>GHR Term</b>	<b>Date Type</b>
BaseLoan	Integer

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<b><i>Cash Out Refi Mode</i></b>
<p><b>CashoutRefiMaxCashout Qualification Method</b></p> <p>Qualifies a borrower with the maximum possible cash out amount.</p> <p>Properties are the same as the NoCashRefIncludeFee qualification method.</p>

<b>Cash Out Refi Mode</b>	
<b>CashoutRefiSpecifyCashout Qualification Method</b>	
Qualifies a borrower with an amount that will pay off the existing loan balance with a specified cash out to the borrower at closing.	
Properties are the same as the NoCashRefIncludeFee qualification method plus an AvailableCash field.	
<b>GHR Term</b>	<b>Date Type</b>
AvailableCash	Integer

<b>Cash Out Refi Mode</b>	
<b>CashoutRefiSpecifyLoanAmount Qualification Method</b> Qualifies a borrower with a specified loan amount and cash out amount.  Properties are the same as the NoCashRefIncludeFee qualification method plus AvailableCash and BaseLoan fields.	
<b>GHR Term</b>	<b>Date Type</b>
AvailableCash	Integer
BaseLoan	Integer

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<b>Cash Out Refi Mode</b>	
<b>CashoutRefiSpecifyLTV Qualification Method</b> Qualifies a borrower with a specified loan to value ratio. Example: 70% LTV for an existing loan balance of \$70,000 will result in a loan amount of \$100,000. Properties are the same as the NoCashRefIncludeFee qualification method plus AvailableCash and BaseLTV fields.	
<b>GHR Term</b>	<b>Date Type</b>
AvailableCash	Integer
BaseLTV	Integer

### Credit Profile Inputs

Each of the qualification methods also accept two input arrays for specifying aspects of the borrower's credit profile. These elements improve the accuracy of the Qualification Results. A Credit Report is retrieved electronically from a certified credit-reporting agency and prepared for use by the GHR interfaces. The two array elements are:

- Liabilities
- Public Records

The data elements for setting these arrays are provided below:

#### Liabilities

SetNumberOfRecords(Integer);  
BorrowerNumber  
LateDaysLiabilityTypeMonthsFromDateReported

#### Public Records

SetNumberOfRecords(Integer);  
BorrowerNumber

MonthsRecordClosed  
MonthsRecordOpened  
RecordType  
Amount

5

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## GHR Qualification Results

Two sets of records are returned from each qualification request. A set of products (Loan Programs) and a corresponding set of closing costs. There is a one-to-many relationship from each Loan Program to the array of Closing Cost Records. The layout of these fields is depicted below:

<i><b>PreQualOutput Record (Loan Programs)</b></i>	
<b>GHR Term</b>	<b>Date Type</b>
RejectionFlags	Integer
TotalLoanAmount	Integer
BaseLoanAmount	Integer
SalePrice	Integer
ClosingCosts	Integer
StartingPITI	Integer
APR	Integer
ReturnRate	Integer
SizeLTVPointsAdjustment	Integer
Factor	Integer
HER	Integer
TER	Integer
LTV	Integer
PI	Integer
MI	Integer
Taxes	Integer
HazIns	Integer
RequiredCash	Integer
PITIInCash	Boolean
PITIReserves	Integer
OriginationFee	Integer
UpfrontMI	Integer



MIFinanced	Boolean
TBDFee	Integer
QualRate	Integer
Arm	Boolean
Index	Integer
Margin	Integer
Cap	Integer
Ceiling	Integer
ClosingCostsUsed	Integer
Term	Integer
BreakEvenMonthNoReinvest	Integer
BreakEvenMonthReinvest	Integer
BreakEvenMonthNoReinvestWC	Integer
BreakEvenMonthReinvestWC	Integer
AIR	Integer
ARMIndex	String
Prepaid	Integer
Miapboob	Boolean
MIRenewal1	Float
CashFinancedDMI	Float
ProgramID	String
PGC	String
ReturnPoints	Integer

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<b><i>Closing Cost Record</i></b>	
<b>GHR Term</b>	<b>Date Type</b>
ComputeImpounds	Boolean
Apr	Boolean
PaidOutsideClosing	Boolean
VHAAllowable	Boolean
AppliesToMods	Boolean
Financed	Boolean
Points	Boolean
InitialPremiumFinanced	Boolean
State	String
County	String
FromZip	String
ToZip	String
MortgageType	String
Description	String
Type	String
TableId	String
Name	String
PerUnitAmount	Float
Percent	Float
Fee	Float
Seller	Float
Lender	Float
Relo	Float
InitialPremium	Float
RenewalPremium	Float
Premium	Float
BuyerID	Integer

Mods	Integer
HUDNumber	Integer
ImpoundType	Integer
Unit	Integer
MonthsToEscrow	Integer
AssocHUD	Integer

### OnePipeline Implementation

In OnePipeline's architecture, the GHR components are wrapped with a CORBA interface using Borland's Delphi development tool (Object Pascal). This interface exposes a single method 'Qualify' that accepts five input parameters:

- Qualification Method
- Filter Parameters
- Qualifications (Borrower Data)
- Borrower Liability Data (From Credit Report)
- Borrower Public Record Data (From Credit Report)

With the exception of 'Mode', which is an integer value, all the other parameters are Strings. The Strings are formatted (delimited) with structures to be easily disassembled for use against the GHR COM interfaces. The format makes use of industry standards such as XML and XMLT. Data is sent to and from the CORBA interfaces utilizing IIOP over TCP/IP.

Any CORBA client can tie directly into the GHR CORBA server once the input parameters are satisfied. In our implementation, a set of JavaBeans comprise the client side of our architecture. There is a JavaBean representing each of the Qualification Methods expressed by GHR. The JavaBeans expose mutater methods for setting each element of the input parameters for Filter Parameters, Borrower Liability Data, Borrower Public Record Data, and Qualifications. The Qualification Mode is encapsulated within the JavaBean

corresponding to the GHR qualification method. All of the JavaBeans expose a Qualify() method through inheritance that performs all of the CORBA location and marshalling functions necessary to interact with the GHR CORBA Server. The result of the Qualify() method call is a delimited String representing the 'PreQualOutput Records' and 'Closing Cost Records' described above. Navigating the output is facilitated by a special IqualifiedProducts JavaBean which receives the formatted return String, parses the records, and exposes methods for accessing individual elements of semantic importance as also outlined in Qualification Results section above. These JavaBeans are dependent on the visibility of the GHR CORBA Server via an IIOP channel and are not well suited for integration with the outside world.

To expose the functionality of the Qualification features of the OnePipeline system to the outside world, the JavaBeans encapsulation of the GHR CORBA Server's API is further abstracted to facilitate clients via the HTTP protocol. A Java enabled HTTP server is positioned to intercept function calls via the outside world and pass them into the JavaBeans which in turn make their normal CORBA requests to the GHR CORBA Server.

Referring now to **34**, with reference to the descriptions above, this OnePipeline - GHR Systems communications interface is defined in functional overview. An HTTP server receives inputs from applicants' system, wherein requests for data are processed and an instantiation of a GHR client JavaBean occurs based on type of qualification desired **3503**. These GHR JavaBeans provide an API into the GHR CORBA Server using distributed computing data marshalling over the Internet Inter-ORB Protocol (IIOP) **3505**. The IIOP request is transmitted to a GHR CORBA server **3509** where the data from the client JavaBeans are accepted, unmarshalled and used to trigger the instantiation of the GHR Systems COM objects. The GHR system using its COM objects, processes the request and returns qualified loan programs (if any). These data are formatted into an XML data stream and sent back to the client JavaBean. **3511**. The OnePipeline system code receiving the XML datastream, parses the datastream

and creates an HTML document for return to the calling web browser for end-used interaction.

In an alternative embodiment, subprograms for performing the functions equivalent to those of the GHR system would be developed internally to applicants system.

The 'Originator Task Menu and Origination Fee Assessment' function.

As indicated above, upon completion of the loan selection and formal loan request, the loan originator is given the screen shown in Figure 28A and is asked to specify the loan origination fee and to choose the functions in steps 3, 4 and 5 which the loan originator will do. The 'Originator Task Menu and Origination Fee Assessment' function 519 in Fig. 5 uses these selections as well as the other non-selected required tasks to construct the inputs which are passed to the Compliance Engine as described above.

The 'Loan Fulfillment Workflow Process.

The composite of information which is passed to the 'Loan Fulfillment Workflow Engine' 545 in Fig. 5 as a new 'context' or data embodiment, and by which a new, discrete, mortgage process is created comprises the summation of data or information supplied by the 'Compliance Engine' 520, the list of tasks related to the specific loan as described above. In a preferred embodiment, the list of tasks for the specific loan are delivered by the Compliance Engine to the Loan Fulfillment System (462 in Fig.4C) which comprises a Loan Processing and Mortgage Workflow Engine such as Framework, Inc.'s Lendware™ product. In an alternate embodiment the 'Loan Fulfillment Workflow Engine' 545 in Fig. 5 is contained within applicants' system and would be built around the Sun Microsystems™ Inc. Forte™ Conductor™ engine product to manage and control the related business processes and to provide a runtime shell to facilitate coordination of application services within the business process. The various business applications related to the steps to be processed in completing the mortgage loan closing are pre-defined to the Forte Conductor system (just as they

are in the Lendware product) so that when the 'mortgage functions' and their designated 'actionees' (if any) are passed to the 'Loan Fulfillment Workflow Engine' and to its Forte Conductor engine, these 'functions' are executed in an integrated environment where both the function process definition and each of the supporting applications is pre-defined and will execute automatically. The supporting applications are a set of application proxies, each representing the business service provided by its application and the pre-defined actions to take are contained in an XSL rule base, consisting of rule documents. Specific rule documents are assigned to proxies so they can interpret and transform messages

The 'Loan Fulfillment Workflow Engine' **545** and its Forte Conductor engine assures that processes happen in the correct sequence and in accordance with the (software controlled) pre-determined, programmatic branching conditions defined by the 'Worker Profile Attributes' **543** business process definition. The 'Loan Fulfillment Workflow Engine' **545** may call upon any combination of 'workers', heretofore described as computers, data tables, software, persons, organizations, companies, or other data sources, etc. to perform the required tasks. The 'worker' or 'agent' is typically manifested in one or more of the following ways: as an individual, an organization, one or more data tables, a data processing system, or the like.

In this alternative embodiment the pre-programmed functional steps executed by the Forte Conductor system are shown in **Figure 6**. The types of activities represented by the icons on **Figure 6** include the following;

<u>Icon</u>	<u>Description</u>
Opening door	Beginning of a new process, in this case a new loan
Closing door	Ending of a process
Computer	Automated activity that does not require human interaction
Monitor interaction	Manual or partly manual activity requiring human interaction
Alarm Clock	Timer activity which initiates the next activity based on

passage of time

The process definition drawing shown in **Figure 6** defines the process activities for the OnePipeline.com compliance workflow system. By performing the defined activities under the strict control of the Conductor workflow engine, the engine ensures that all required tasks are completed, and in the required sequence. The engine presents activities only to workers whose role designations match the role designations of the activity. The earlier system activities assigns roles in advance to workers only after verifying that the pre-requisite qualifications are satisfied. In this fashion, loan originators are assured that all applicable pre-qualifications are satisfied and that they actually performed all the services for which they were compensated. When a loan process is initiated in the workflow system a call is made to the Forte Conductor software to instantiate a new loan workflow process for the specific loan, as indicated by the parameters passed in the calling sequence.

This workflow process is better understood with reference to **Figure 6**. Referring now to **Fig. 6**, the loan originator **601** gathers credit data, gets authorization and requests pull credit **603**. The automated system **607** pulls credit **609**, processes the credit report, parses FICO, public records and liabilities **611**, and the credit profile is saved to the Oracle™ data base **612**. If this credit clearing process exceeds 15 minutes a timeout occurs **615** and a message is sent to the user indicating a failure in the credit processing. When the credit profile is completed and saved to the Oracle™ data base **612** and the loan originator **601** has completed the loan wizard and Express app via the website **604** the system then begins the underwriting assessment **617**. If the FICO previously determined in step **611** is not less than 620 the process driver submits the request to automated underwriting **621**. If it is approved **623** the system generates task lists and compliance documents (GFE, TIL, Disclosures, etc.) **625** and submits them, to the loan originator **627**, to the premium broker processor **649**, to the premium broker account executive **651**, for their individual completion of their respective tasks to complete the loan process. The loan originator **627**, the premium broker processor **649**, and the premium broker account executive **651**, all electronically

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5 submit a task completion message to the system 631 and it compares the  
submissions against authorization criteria 633. If the criteria are met the system  
determines whether the user has requested that the loan rate be locked 635 and if  
so the loan is locked-in with the investor 661 and a message is passed to the clear-  
to-close auditor 665, 659 where a determination is made as to whether the  
transaction is clear-to-close 667. If so a message is passed to the closer 669 to  
close the loan 677. A message is then passed to the funder/shipper 671 to  
fund/ship the loan. The funder/shipper 671 does two things: first it verifies the  
investor purchase of the loan 683 and notifies the controller 675 to update the  
10 general ledger that funds have been received 689 and tells the end transaction  
mechanism 691; secondly the funder/shipper 671 tells the controller 675 to  
update the General Ledger to disburse the funds 687 which submits a requisition  
to payroll 685 who notifies the end transaction mechanism 691.

15 The system has capabilities to determine that the required criteria have not  
been met/completed 633 and determine whether to resubmit the loan request to  
automated underwriting 639, 640 or to notify the underwriter 641 to iterate on the  
credentials review process 643 and either deny 645, 647 the loan or approve it  
645, 623 and generate the task lists again 625.

20 Thus the loan process in this alternate embodiment is driven through the  
required tasks by the Forte Conductor engine to assist in the complying with the  
various regulations and yet automate the process in a helpful and efficient manner.  
In the preferred embodiment the ASP system LendWare or its equivalent drives  
the loan process and the individual task workers in a manner similar to that  
described above. In the preferred embodiment the task completion data is passed  
25 to the Compliance Engine which monitors the list of tasks for each loan and which  
can also communicate directly with some task workers when certain critical  
events occur or timeouts are perceived.



The 'Task List Maintenance and Status Reporting Gateway'

The 'Task List Maintenance and Status Reporting Gateway' 550 in Fig. 5 or 463 in Fig. 4C serves as a portal to communicate to and from other agents and workers who are qualified to perform assigned tasks. These tasks are those which would be assigned by the 'Loan Fulfillment Workflow Engine' 545 or by the ASP workflow processor Lendware 463 to other agents or workers to complete prior to the closing of the loan and distribution of funds. While this gateway is similar to the 'loan origination gateway' it is significantly different in that the middleware layer must handle the conversion of data format and protocol of the Forte Conductor engine or the Lendware workflow engine to and from the formats and protocols of the agents/workers to which the workflow process is communicating. Accordingly, The 'Task List Maintenance and Status Reporting Gateway' 550 in Fig. 5 is used to transmit messages from the workflow engine to these other agents and to receive responses from authenticated agents. These agents would be performing tasks such as 'title search', 'survey', 'credit check', etc. The 'Task List Maintenance API and Status Reporting Gateway' 550 can also use the same interface modes as envisioned for The 'Loan Origination Gateway' 505. Envisioned are at least, three (3) ways by which the system may access and be accessed by a loan agent/worker: (1) via Internet website, (2) via custom-written software which connects in a data transmission-enabled manner to the present invention, and (3) via 'wireless' devices, as previously described for the 'Loan Origination Gateway' 505.

A loan originator or borrower may also come into the system via this gateway to check the status of the loan process, etc. As indicated below every entrant via this gateway must never-the-less be authenticated before entry is allowed. Conveyance of task lists to a loan originator and associated workers and reporting of borrower loan status are accomplished through a programmatic presentation 552 which embodies the following: 'borrower status report(s)', 'originator's task list', and 'other worker's task lists' (as described above)- said information exchanged through this 'task maintenance & status reporting

Gateway' (the "TMSR gateway"). This 'TMSR gateway', functions in a manner similar to that used during the loan origination process. Reports may be conveyed by a variety of programmatically controlled means , such as web pages, PDF® files, word processing format files, etc. The TMSR gateway receives the direction messages from the 'Loan Fulfillment Workflow Engine' 553 in the standard Forte Conductor or Lendware API format , and using the middleware layer described before, converts the format and message protocol into that required to communicate with the desired agent/worker. Similarly, the TMSR gateway can receive messages from the various agents/workers in various formats and protocols (i.e. HTML, XML, WML, WAP, etc.) and converts these messages and protocols into the standard API formats used in the preferred embodiment.

Referring now to **Figure 36** the principle purpose of the 'TMSR Gateway' 4200, in serving as a portal, is to provide a way for the loan originator and borrower to check the status of the loan process and for the 'loan process workflow engine' to communicate to and from the other agents/workers who are doing some task required by the process, without having to worry about what input method or output method is required to communicate with a given entity, and/or the related data formats and protocols. Consequently the major purpose of the TMSR gateway is to perform the middleware tasks of - recognizing the input channel and data format and protocol used 4209 and convert the data to the standard workflow engine Application Programming Interface (API) format 4211 which will be used by the workflow engine. Similarly, on receiving a message to be transmitted from the workflow engine, the TMSR gateway middleware structure is required to determine the format & protocol used by the addressee and convert the message from the workflow engine API format into the format and protocol of the addressee 4215 and then transmit the message 4217 to the addressee 4203 or 4205 or 4207. The input data originates from the input screens provided by the system, and from the output data pre-defined in the various task elements in a typical loan workflow process. The workflow engine will typically transmit a required message whenever an event occurs which requires a message be sent or resent (because of a timeout for example).

The TMSR gateway is required to pass the received data to a second authentication module **549 in Fig. 5** or **464 in Fig.4C**. This authentication module once again verifies the used ID and password of the inputting user. In the preferred embodiment this check does not verify the legal qualifications of the user. In an alternative embodiment, the user ID is checked to determine the worker Type, and the roles this type worker may perform for this location of the property and for his location are verified against the role he is attempting to play. Similarly the compliance engine checks to see if the various legal regulations allow this agent/worker to perform the role they are attempting to play. If so the authentication module **4212 in Fig. 36** will pass the data submitted to the aforementioned workflow engine **4213** for its processing of the incoming data in response to the task assigned.

#### Transaction Service Provider Gateway

Returning now to **Figures 4C and 5**, the 'Vendor Management API Gateway **467 in Fig. 4C** or the 'Transaction Service Provider Gateway' **555 in Fig. 5** serves to manage 'tasks' assigned to external agents or workers or vendors with whom Applicants' have a special vendor relationship. That is, a vendor who supplies appraisals in a given locality, loan processing, credit checks, title searches, flood certification, mortgage insurance, etc. The 'Vendor management API Gateway' or the 'Loan Fulfillment Workflow Engine', (see **Fig. 6** for example) in developing a task list for the loan originator (**627 in Fig. 6**), recognizes some tasks as falling under the responsibility of the loan originator as determined in the loan origination process, and some tasks which are to be automatically forwarded to certain service provider agents or vendors. The communication of these assignments, occurs in a different manner than those described above relative to the TMSR gateway. Since these tasks tend to be more routine and repetitively performed by the specific vendors, the workflow engine will send a message to the designated vendor and wait (i.e. maintain the telephonic or electronic connection) until the vendor supplies the desired response (which normally would be within a few minutes) or until a watchdog timer

expires. If the timer expires the workflow engine will try the communications again as well as notify a system manager that the vendor has not responded.

For example referring now to **Figure 36** the 'transaction service provider gateway' (the "TSP gateway") **4400** is described. The functioning of the 'Vendor Management API gateway' under the control of Lendware, for example, would function similarly. Whenever the workflow process for this loan **4401** recognizes an event/task which requires a communication to a vendor/partner (service provider), the workflow process constructs the message and passes it to the TSP gateway **4403**. The TSP gateway determines the format and protocol required to communicate with the indicated service provider and translates the message from the workflow process format into the required format and protocol for the service provider **4405**. The TSP gateway then establishes a persistent communications link with the service provider **4407** and sends the message and waits for a response **4409**. If the service provider does not respond in a given time a watchdog timer expires **4411**, **4413** in which case the system administrator is notified **4415** and the message is resent **4409**. If the service provider responds within the allotted time **4423**, **4425** the circuit connection is released **4427** and the response is translated from the format and protocol of the service provider into the format required by the workflow process **4429** and the response is passed back to the workflow process **4431**.

During the course of the workflow process execution of the various tasks as shown in **Figure 6**, the workflow process engine records each transaction into an Oracle database in order to create and maintain an audit trail of tasks performed for this loan, when performed, by whom, etc. This database is used for certain reports triggered by other tasks in the workflow process as well as ad-hoc reports of tasks completed for various compliance and maintenance reasons.

#### Worker Compensation and Task Performance Report Module

The 'Worker Compensation and Task Performance Report' Module **468** in **Fig. 4C** or **557** in **Fig. 5**, provides a mechanism for producing reports to accounting to distribute funds to those agents/workers who have earned them in a particular loan transaction. These reports in a preferred embodiment are normally

triggered by the Compliance Engine but may be triggered in an alternative embodiment by the loan workflow process for that loan at certain pre-defined points in the workflow. This module also provides the capability for generating regulatory completion reports and/or Completion Certificates as required for each loan.

#### The 'Secondary Banking Process' Module

The 'Secondary Banking Engine' module **469 in Fig. 4C** or **561 in Fig. 5** serves to manage loan transactions as they are introduced to the secondary lending pool, and move them programmatically through the process of 'closing', 'funding', and 'shipping' the loan transaction. In one embodiment, **469 in Fig. 4C**, is managed by Lendware via on on-site installation or equivalently by Framework ASP. In an alternative embodiment, the secondary banking functions would be managed and processed within applicants' system. **561 in Fig. 5**. In the alternative embodiment, the 'Secondary Banking Engine' **561** would also serve as the mechanism whereby the transactions and funds distributions involving the bundling and selling of loans to the secondary banking institutions are verified and reported in the following manner: (a) 'Locked Loan reports, tracking all loans locked by borrowers, and reported on a regular schedule, (b) Commitment report, tracking all unfulfilled loan commitments, (c) Funding report, which tracks and reports initial funding status (d) Funded, but not Shipped report, (e) Shipped but not Purchased report, and (f) Purchased Loan report.

In an alternative embodiment, a special task of the secondary banking module is to manage use of the funds in the warehouse credit line. The management objective is to optimize the financial return generated by the funds in the warehouse line of credit. If too much of the warehouse line is consumed in covering mortgage loans processed, the overall return on these funds is diminished. Accordingly the management task is to move mortgage loans from the warehouse line to secondary investors as quickly as possible. This may be done by selling individual loans to secondary investors, or by pooling multiple

loans, according to various credit conditions and pooling rules for sale to other secondary investors.

### DESCRIPTION OF THE BEST MODE

Referring now to **Figures 31-32** the various types of computer hardware and computer software used in a preferred embodiment at the present time are depicted. In Figure 31 it is clear that Sun® Ultra5™ workstations **3101** and general purpose Personal computers (PC) **3103** may be used as input devices to the system. A Sun E250™ dual processor server **3105** is used as a development/test system running the Sun® Solaris® operating environment, Oracle® 8i, Forte® Conductor™ with a SynerJ™ server. A single processor Sun E250™ server **3107** is used in the Sunnyvale facility. Also in this facility are three Sun E4500™ dual processors **3117**, **3119** and **3121**, an IBM NetFinity 7000™ quad processor with a Microsoft® NT™ server **3115** and a Hitachi Shared Disk array **3123**. There are also three IBM NetFinity 5000™ servers **3109**, **3110** and **3111** located in the Salt Lake City facility.

In **Figure 32** it may be seen that loan originators interface to the applicants system using a standard Internet browser such as Internet Explorer™ **3201** with the initial interface in applicants' system being with Lotus® Domino™ **3203**.

The system then performs the Pre-qualification and Loan application & Approval using GHR® Systems PriemierWare™ **3209**. The Sun Solaris® operating environment in the system server (at **3203 in Fig. 32**) interfaces with the GHR system **3209** and to FastDirect™ **3211** via IIOP through a CORBA to COM bridge and a Delphi Automation interface to Windows NT™. Solaris™ interfaces in this configuration to the Oracle 8i® server via Forte® Conductor™ **3207** through Forte Enterprise JavaBeans, Forte Distributed JavaBeans and IIOP.

Having described the invention in terms of a preferred embodiment, it will be recognized by those skilled in the art that various types of general purpose computer hardware may be substituted for the configuration described above to achieve an equivalent result. Similarly, it will be appreciated that arithmetic logic circuits are configured to perform each required means in the claims for

performing the various features of the rules engine and flow management. It will be apparent to those skilled in the art that modifications and variations of the preferred embodiment are possible, such as different computer systems may be used, different communications media such as wireless communications, as well  
5 as different types of software may be used to perform equivalent functions, all of which fall within the true spirit and scope of the invention as measured by the following claims.

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## CLAIMS

We claim:

1. A computer implemented method for generation of a set of required  
 5 procedures for processing a mortgage loan comprising the acts of:
  - receiving a request to process a mortgage loan;
  - generating a plurality of tasks, the tasks comprising actions required to process  
 the mortgage loan, including tasks required by applicable federal or state law;  
 and
  - 10 • distributing one or more of the tasks to one or more systems capable of  
 performing one or more of the tasks.
2. The computer implemented method for automated processing a  
 mortgage loan of claim 1 comprising the additional act of monitoring completion  
 15 of the plurality of tasks whereby a report of completion of all required tasks can  
 be generated.
3. The computer implemented method for automated processing of a  
 mortgage loan of claim 1 comprising the additional act of authenticating a person  
 20 submitting the request to process a mortgage loan.
4. The computer implemented method for automated processing of a  
 mortgage loan of claim 1 comprising the additional act of electronically  
 transferring the plurality of tasks required to process the loan to an electronic loan  
 25 processing workflow engine for controlling and managing execution of the tasks.
5. The computer implemented method for automated processing of a  
 mortgage loan of claim 1 wherein the plurality of tasks required to process the  
 mortgage loan are based upon mortgage loan related laws and regulations  
 30 comprising Federal, State, local and professional regulations and requirements  
 and implementing instructions relating to mortgage loan processing.



6. The computer implemented method for automated processing of a mortgage loan of claim 1 comprising an additional step of producing a completion certificate.

5

7. A compliance engine for automated processing of a mortgage loan comprising:

- a computer system having communications devices for receiving a request to process a mortgage loan;
- the computer system having logic mechanisms programmed to generate a plurality of tasks, the tasks comprising actions required to process the mortgage loan, including tasks required by applicable federal or state law; and
- the computer system having additional logic mechanisms programmed to electronically distribute one or more of the tasks to one or more systems capable of performing one or more of the tasks.

10

15

8. The compliance engine of claim 7 further comprising electronic logic devices programmed to monitor completion of the plurality of tasks and to generate a report of completion of all required tasks.

20

9. The compliance engine of claim 7 wherein selected vendors are automatically notified by the compliance engine to perform a task and to report task completion to the compliance engine.

25

10. The compliance engine of claim 7 wherein the plurality of tasks required to process the mortgage loan are based upon mortgage loan related laws and regulations comprising Federal, State, local and professional regulations and requirements and implementing instructions relating to mortgage loan processing.

30

11. An apparatus for automated processing of a mortgage loan comprising:

- means for receiving a request to process a mortgage loan;

- means, coupled to the means for receiving a request to process a mortgage loan, for generating a plurality of tasks, the tasks comprising actions required to process the mortgage loan, including tasks required by applicable federal or state law; and
- 5 • means, coupled to the means for generating a plurality of tasks required to process the mortgage loan, for electronically distributing one or more of the plurality of tasks to one or more systems capable of performing one or more of the tasks.

10 12. In a network having a user node including a browser program coupled to said network, said user node providing requests for information and providing mortgage loan application related commands on said network, a network node comprising:

15 a mortgage loan processing server node responsive to a request from said user node to process a mortgage loan, whereby said mortgage loan processing server node provides a first mechanism for generating a plurality of tasks, the tasks comprising actions required to process the mortgage loan, including tasks required by applicable federal or state law; and provides a second mechanism coupled to the first mechanism, for distributing one or more of the plurality of tasks to one or more systems capable of performing one or more of the tasks.

20

25 13. The loan processing server node of claim 12 wherein the loan processing server node provides a third mechanism to electronically monitor completion of the plurality of tasks whereby a certificate of completion of all required tasks can be generated.

30 14. The loan processing server node of claim 12 wherein the actions required to process the mortgage loan are based upon mortgage loan related laws and regulations comprising Federal, State, local and professional regulations and requirements and implementing instructions relating to loan processing.

15. A computer program product stored on a computed useable medium, comprising;

- a first computer readable program mechanism for receiving a request to process a mortgage loan;
- a second computer readable program mechanism for generating a plurality of tasks, the plurality of tasks comprising actions required to process the mortgage loan, including tasks required by applicable federal or state law; and
- a third computer readable code mechanism for distributing one or more of the plurality of tasks to one or more systems capable of performing one or more of the tasks.

16. The computer program product of claim 15 comprising a fourth computer readable code mechanism for monitoring completion of the plurality of tasks whereby a report of completion of all required tasks can be generated.

17. The computer program product of claim 15 wherein the plurality of tasks required to process the mortgage loan are based upon loan related laws and regulations comprising Federal, State, local and professional regulations and requirements and implementing instructions relating to mortgage loan processing.

# A METHOD AND APPARATUS FOR A MORTGAGE LOAN ORIGINATOR COMPLIANCE ENGINE

## ABSTRACT OF THE DISCLOSURE

5

The automated compliance engine of the present invention uses the Federal, State, local and professional regulations and requirements and implementing instructions to generate a plurality of tasks which can be used to control and drive the process of handling a mortgage loan application to completion and to monitor the completion of the tasks in order to generate a Completion Certificate. Mortgage loan requestors may specify that the system will generate the plurality of required tasks, provide the plurality of required tasks to the requestor for his execution, and monitor the completion of all required tasks so as to provide a completion certificate to the requestor. Alternatively, loan requestors may specify that the automated compliance engine will generate the plurality of required tasks, will transfer the required tasks to other systems qualified to manage and control the execution of the required tasks, and the compliance engine will monitor the completion of all required tasks so as to provide a completion certificate to the requestor.

10

15

20

25

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Figure 1  
100 ==> Typical Internet Network Configuration

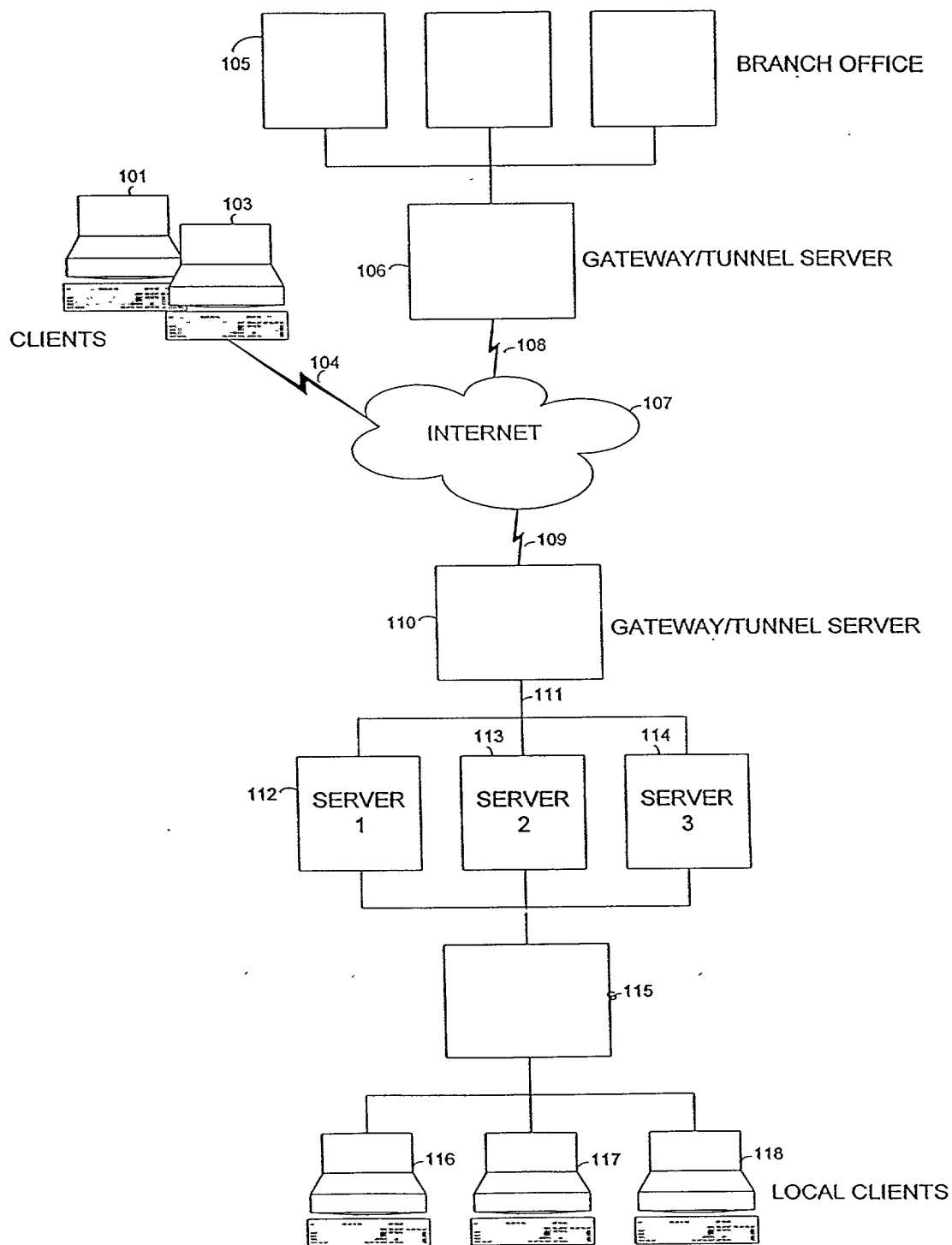


Figure 2

200 Typical General Purpose Computer/

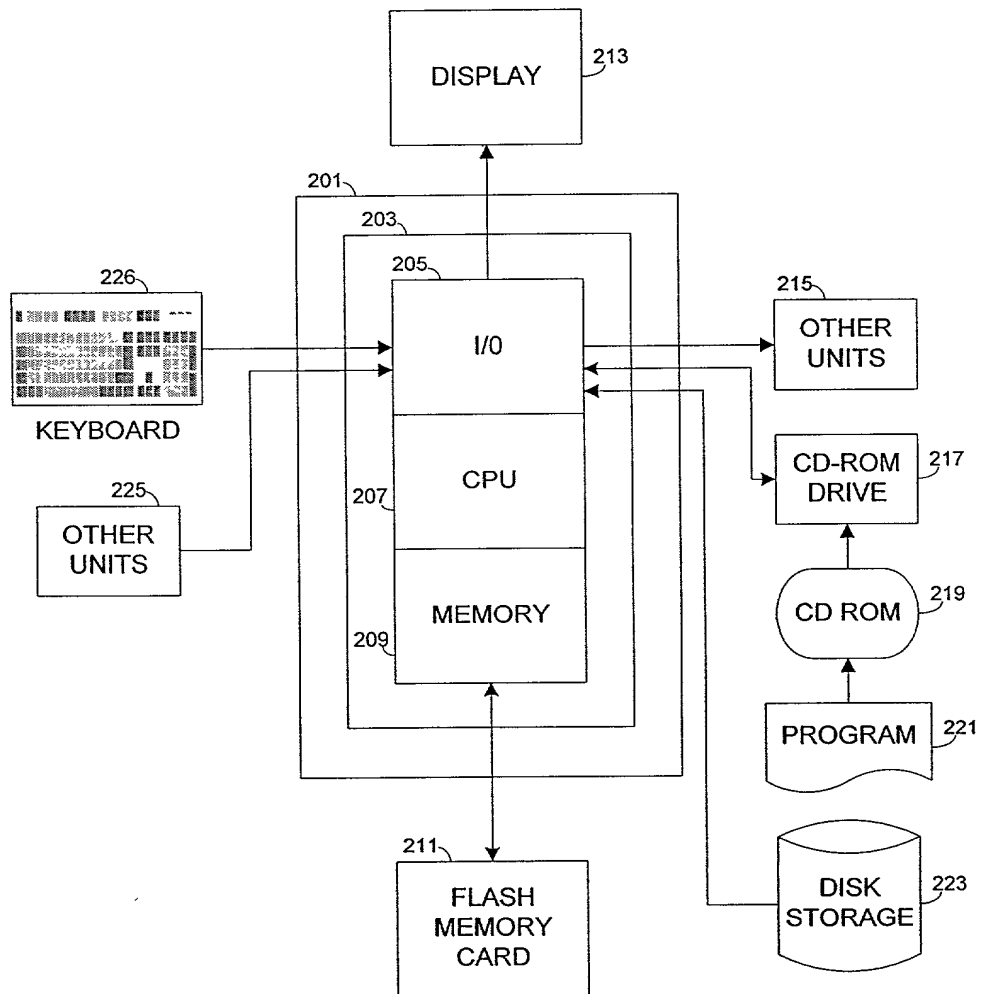


Figure 3

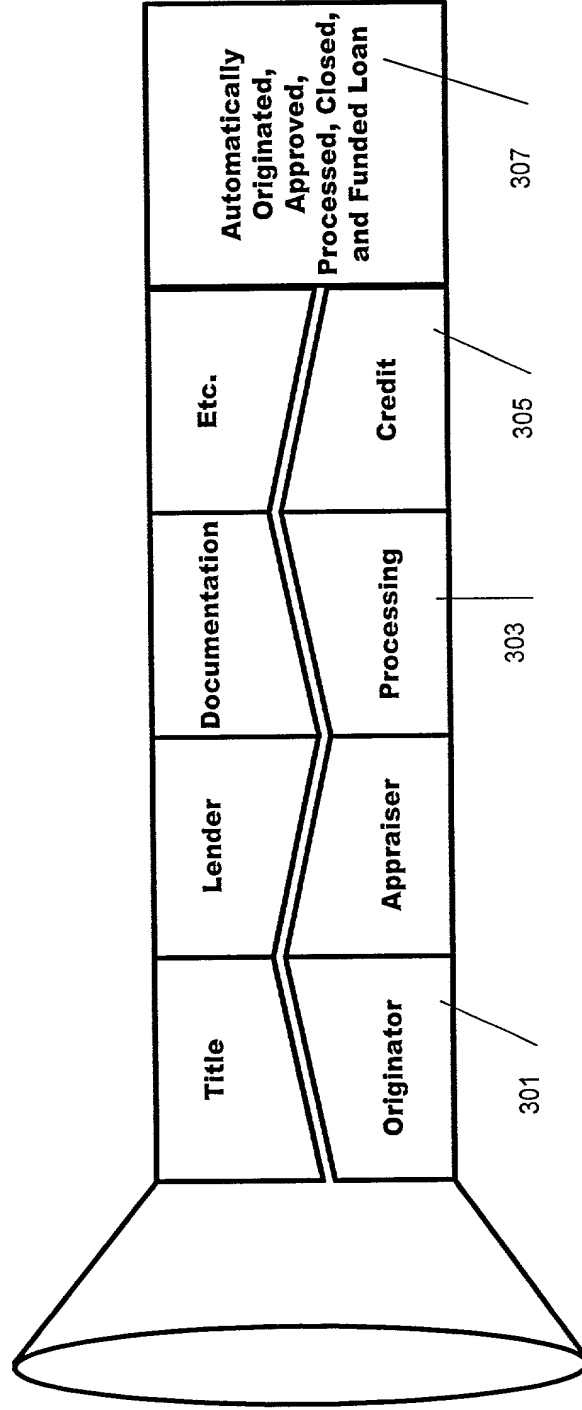


Figure 4A

400

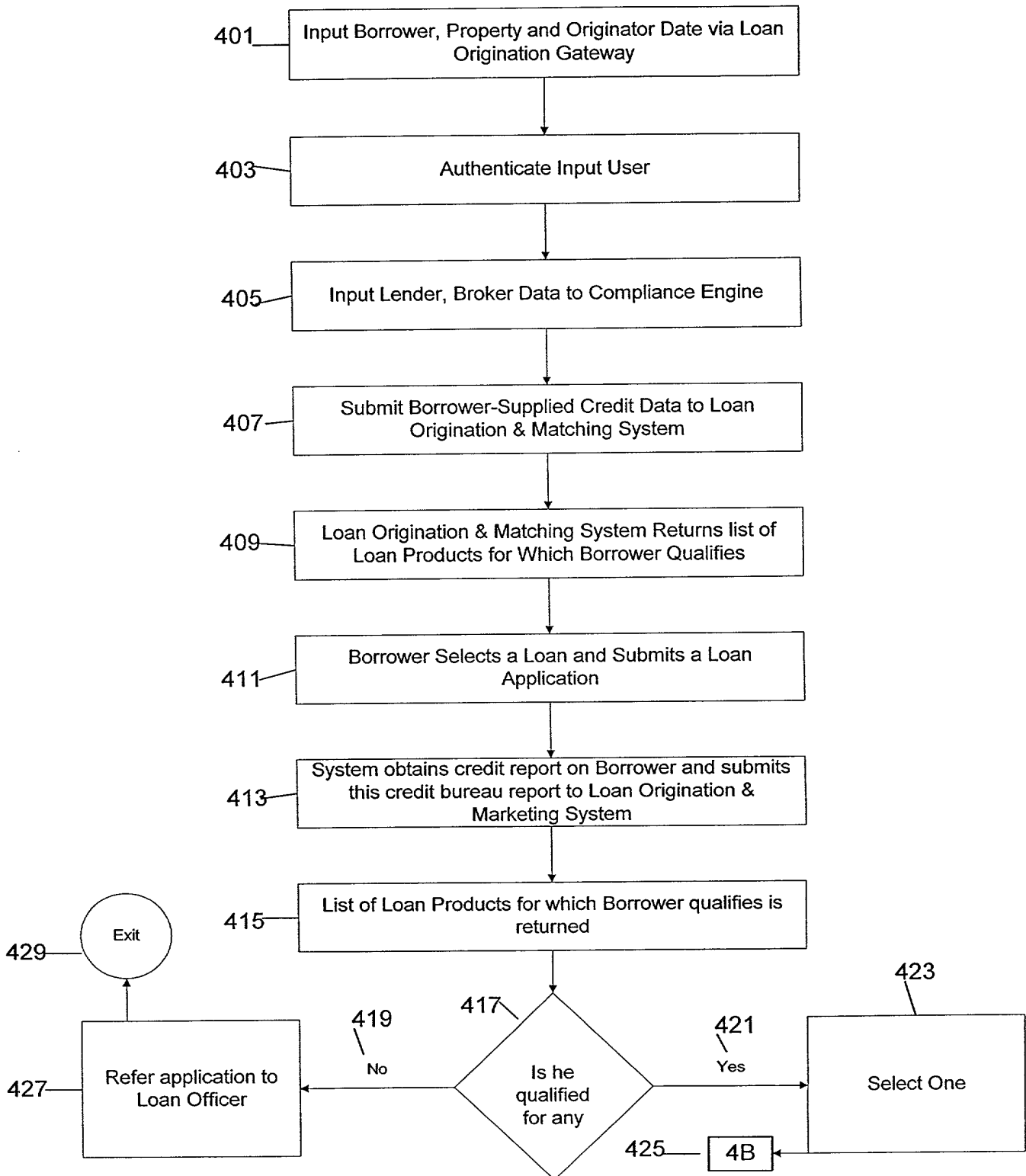
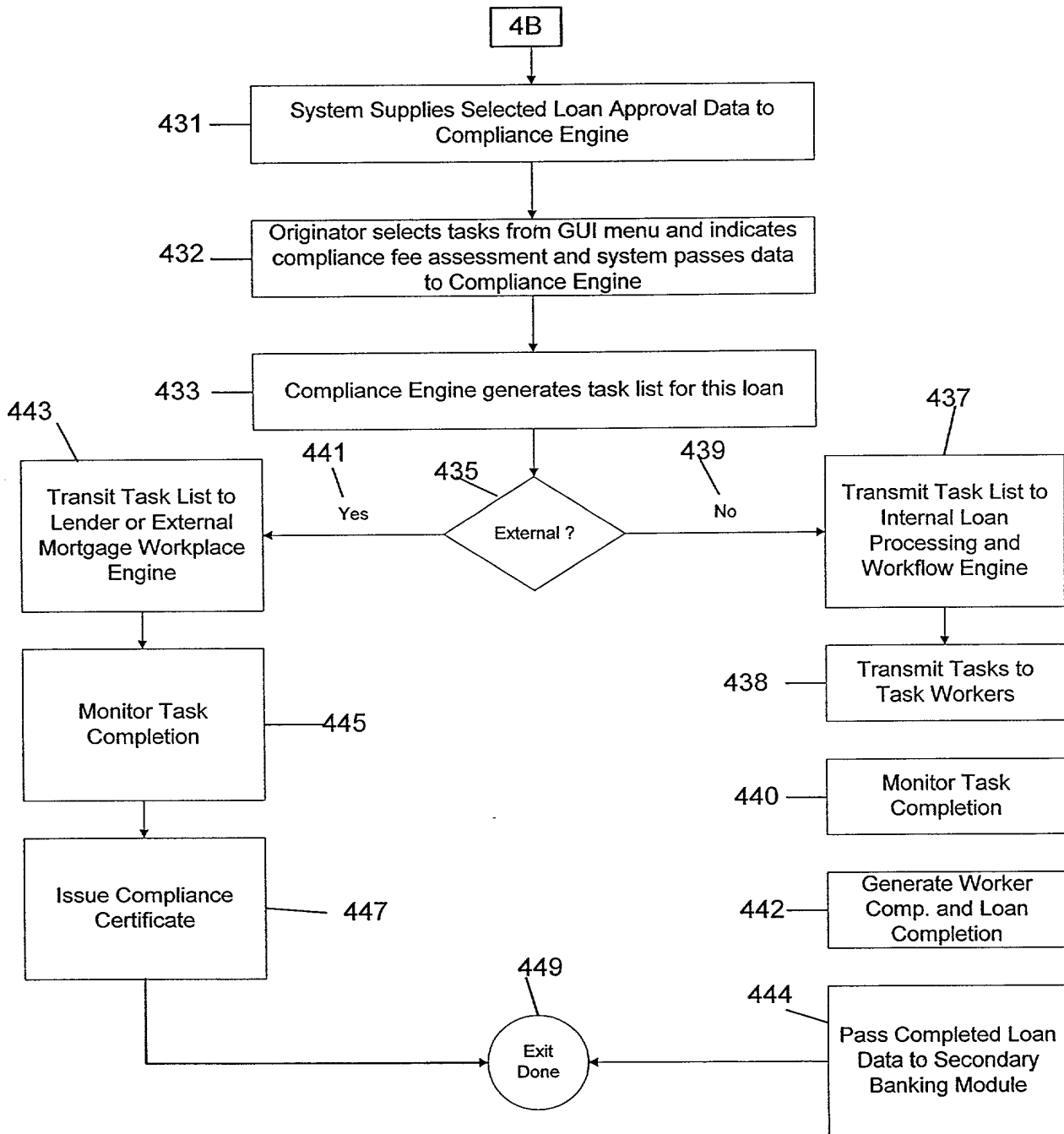




Figure 4B



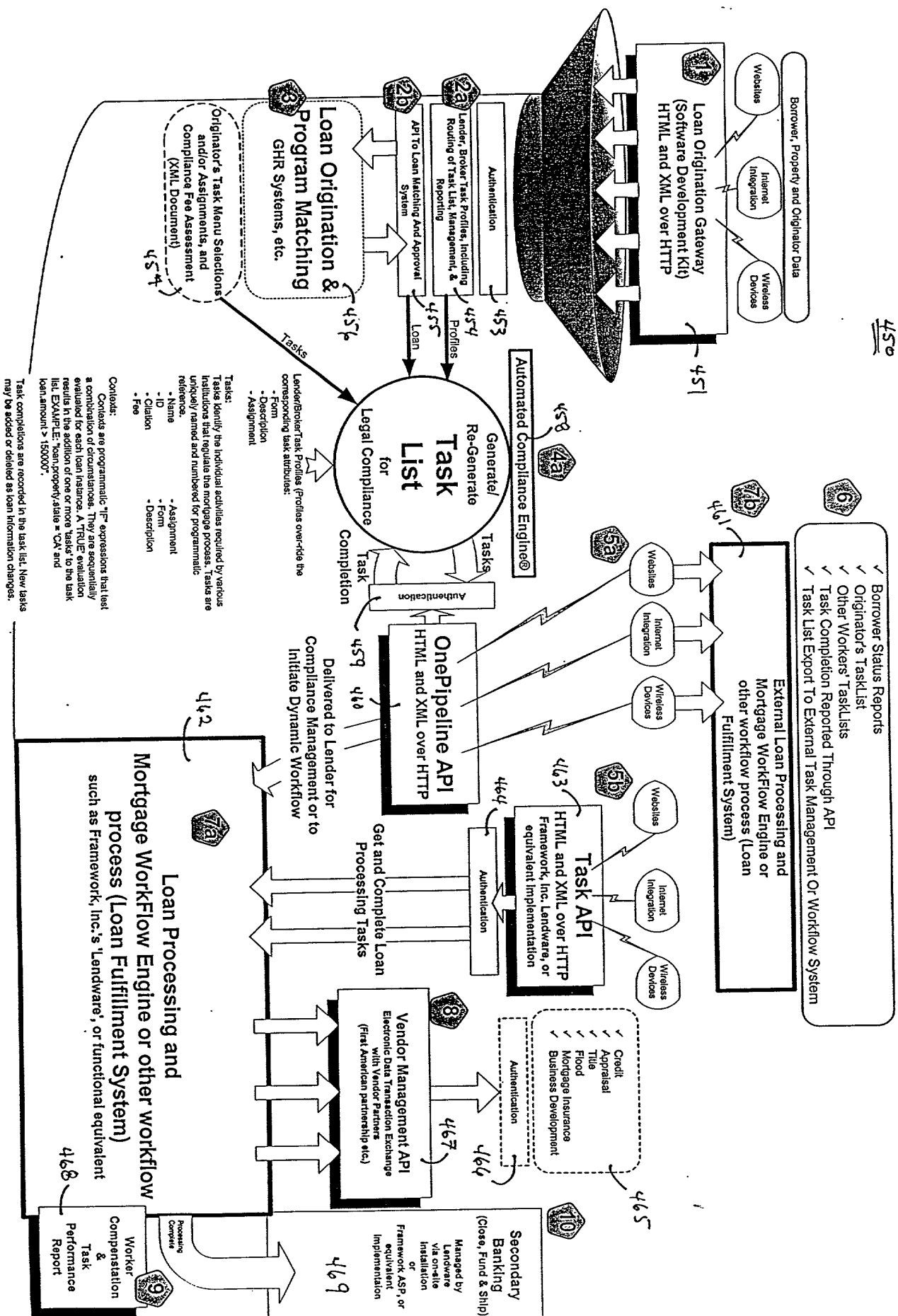


Figure 4C

475

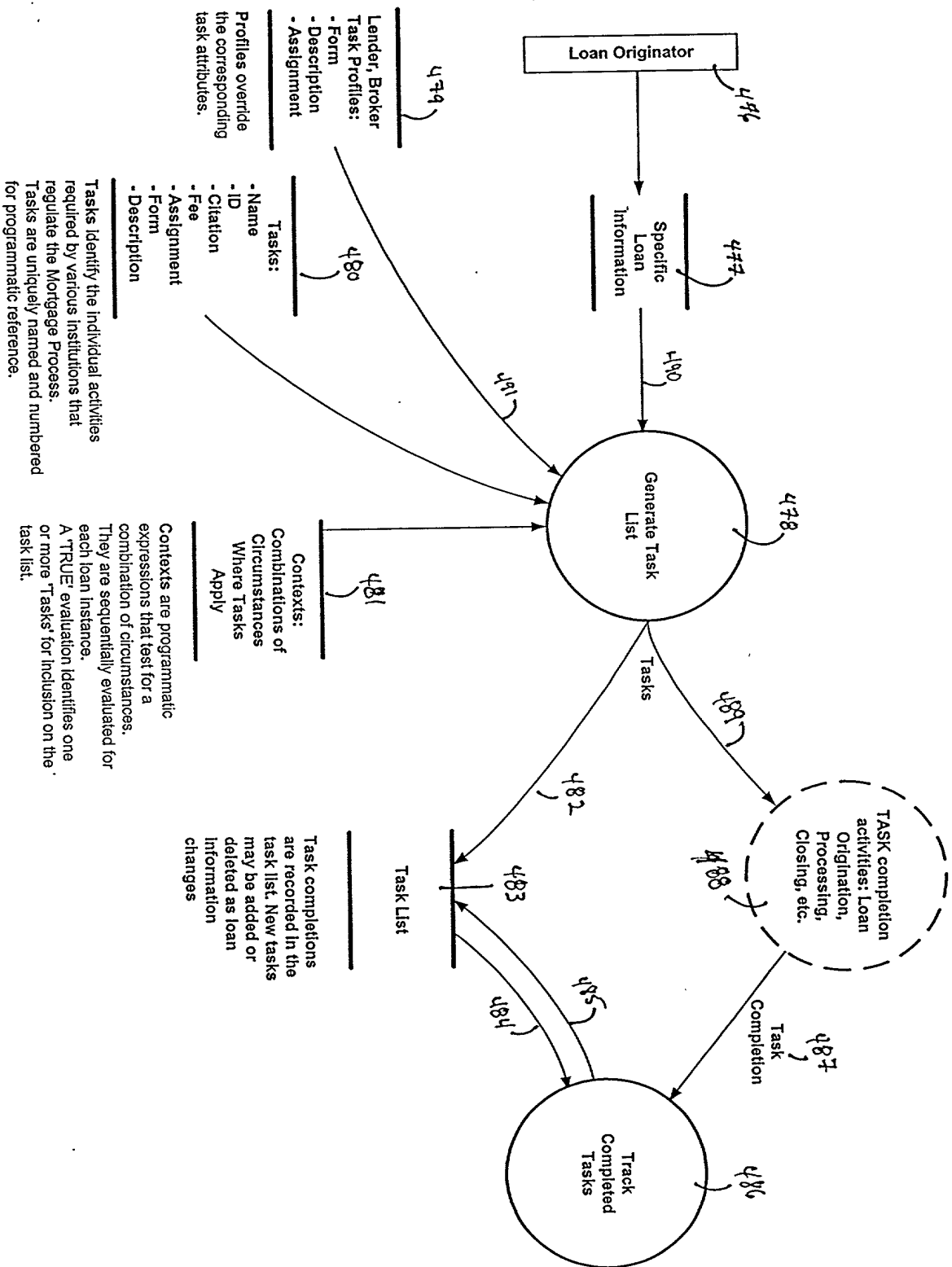


Figure 4D

006443.1.03400

Figure 5

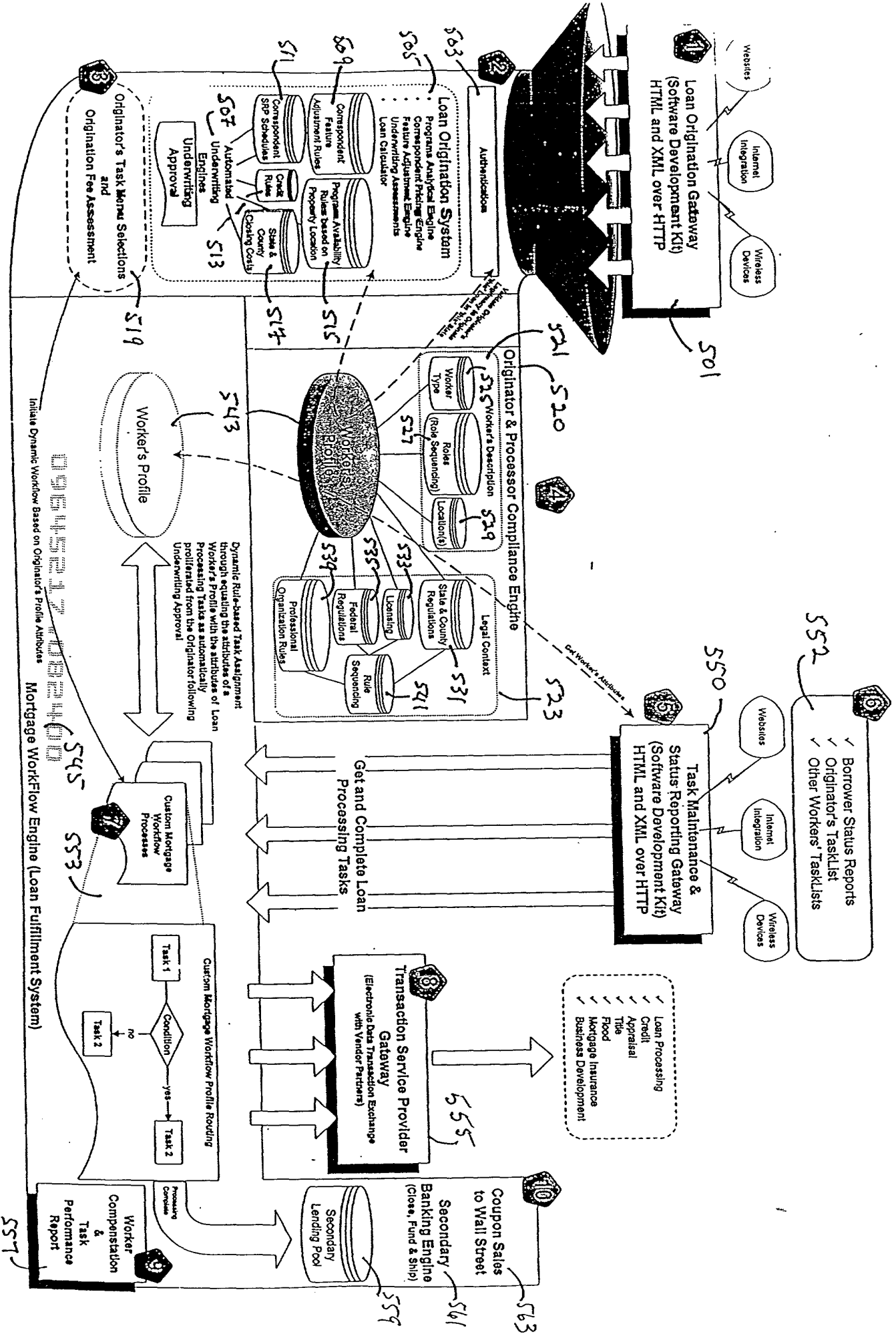
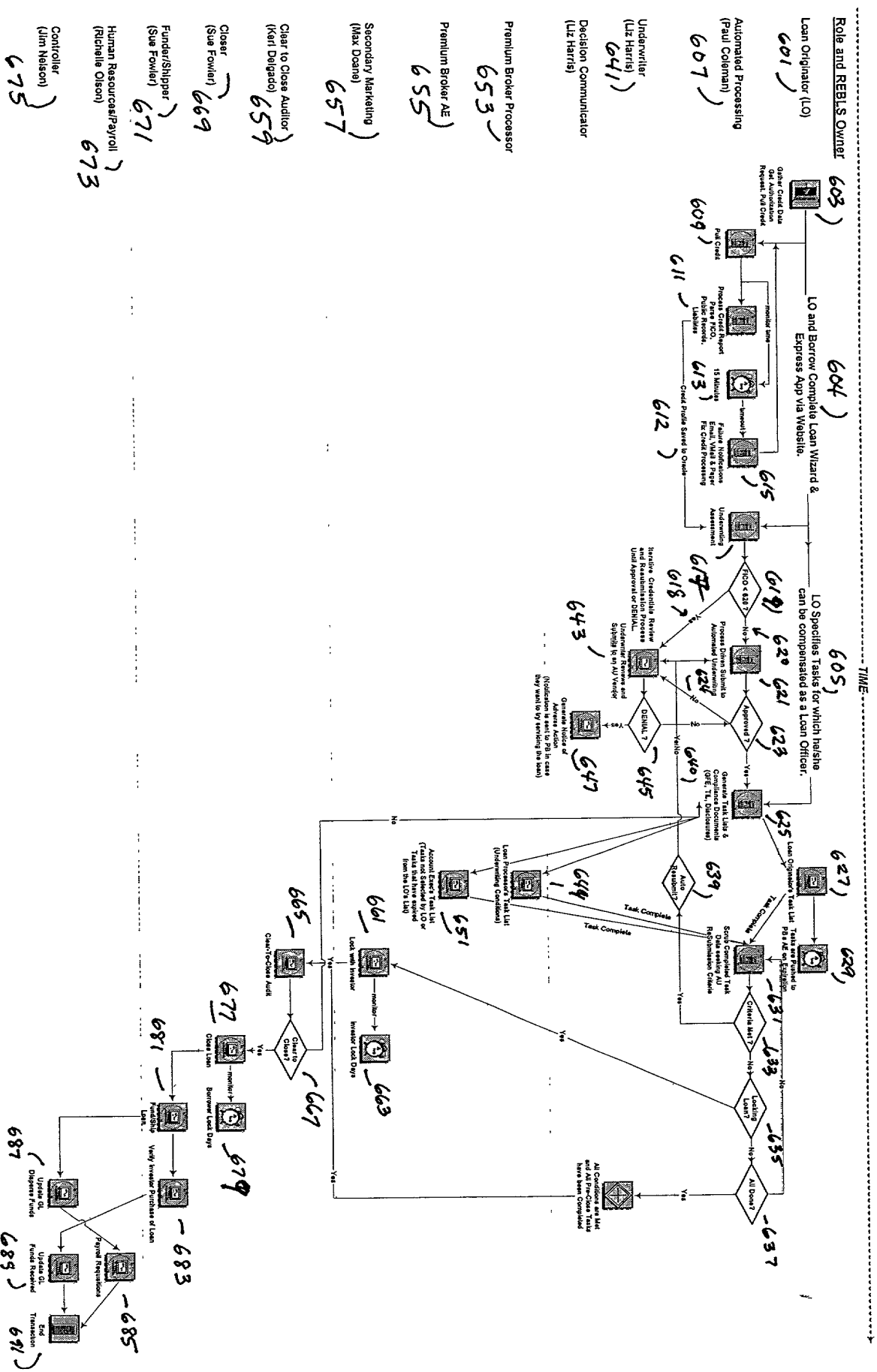


Figure 6

onepipeline.com Process Map & Workflow Definition: New Loan 600



09645217 - 082400

Figure 7

<a href="#">Need to ask a question?</a>	<a href="#">Click here for help.</a>	<b>Member Login</b>
---	--------------------------------------	---------------------

"The OnePipeline.com system is simple, fast and profitable."



**Instructions:** Welcome to the OnePipeline Loan Origination System. Please sign in.

**New Users**

☐ [Sign Up Now](#)

**Members**

User Name

Password

☐


☐ [I Forgot My Password.](#)

[Return to HomePage](#)

Figure 8

<a href="#">Need to ask a question?</a>	<a href="#">Click here for help.</a>	<b>Main Menu</b>
---	--------------------------------------	------------------

"We created a better way to originate a loan."



Welcome Joe Realtor

**Enter the Loan Origination System**

- [Start a Loan](#)
- [Task List](#)
- [Check Loan Status](#)

**Get More Info**

- [Tools and Resources](#)
- [OnePipeline University](#)
- [Benefits](#)
- [Marketing Support Tools](#)

**Modify My Account**

- [Log Out](#)

[Return to HomePage](#)

Figure 9

Loan Product Shopper - Netscape

### Loan Product Finder

I am interested in:

How will the property be used?

What is the property type?

How long do you plan to keep this property?

Property State:

Estimated Property Value:

If Purchase or Cash out, what percentage of the home value do you wish to borrow? (e.g. 80, 95, etc)

If Refinance, balance owed on mortgage(s):

Would you prefer Current Market Rate (7.875%) or would you prefer to buy down the rate with discount points?

What is your estimated combined monthly income?

What are your estimated combined monthly debts?

%  ☒ current market rate ☐ buy down with points

[Calculate](#) [Close Window](#)



Figure 10

Affordability Analysis Tool - Netscape

### Affordability Calculator

**Affordability Information:**

Debt/Income Ratio to use.  %

Today's Interest Rate  %

Cash Available for Down Payment

Borrower Gross Income

Co-Borrower Gross Income

Other Income

Total Automobile Payments

Total Revolving Accounts Payments

Other Monthly Payments

Property Taxes (/Yr)

Homeowner's Insurance (/Yr)

**Instructions:**

Complete the information below to find out how much home can be afforded. No comma please.

[Calculate](#) [Close Window](#)

Figure 11

OnePipeline.com 5 Step Rapid Response System - Netscape	
Need to ask a question?	<a href="#">Click here for help.</a>
<b>Loan Origination Process Overview</b>	

**Instructions:** As a part of compliance, the loan originator is required to review and discuss the entire loan origination process with the borrower. To do so, simply click through the five-steps below. You will be asked to confirm that you have reviewed the process with your borrower.

<b>1</b> <b>Loan Shopper</b> <i>Getting started</i>	<b>Step 1: Loan Shopper</b> <i>Getting PreQualified</i> <ul style="list-style-type: none"><li>• Complete the Loan Shopper with your borrower. Providing this information will determine the:<ul style="list-style-type: none"><li>• Best loan program for your borrower</li><li>• Lender that has the right loan program and the best rate</li><li>• Loan amount your borrower will qualify for</li></ul></li><li>• Select your preferred lender or the best rate of the day.</li></ul>
<b>2</b> <b>Express Application</b> <i>Apply for your loan</i>	
<b>3</b> <b>Auto Underwriting</b> <i>Loan Decision</i>	
<b>4</b> <b>FastTrak Processing</b> <i>Loan Approved</i>	
<b>5</b> <b>Final Approval</b> <i>Time to close your loan</i>	

Figure 12



# Loan Shoppe

Step 1 - Loan Shopper | Step 2 - eXpress App | Step 3 - Auto Underwriting | Step 4 - FastTrak Processing | Step 5 - Final Approval

Personalized My Loan | Property Info | Self-Assessment | Financial Info | Loan Preference | Loan Products

Loan Number: 937266

Loan Originator: Joe Realtor

**Instructions:** Choosing a lender is a very important part of the OnePipeline.com loan origination process. Carefully review the lenders and rates listed below. You can choose between the Best Rate of the Day or choose a Lender from the Preferred Lender List. Today's 30-year fixed rates are shown below for comparison purposes.

Before clicking the 'next' button, please print out this page and have you borrower sign the page indicating which lender they wish to use.

☒ Best Rate ☐ Select Lender

Today's 30-year Fixed Rates:

last updated at: 02/07/2000 10:06:58 AM

OnePipeline.com	8.250%	.000	8.389%	Chase	8.250%	.250	8.422%
Citicorp	8.250%	.125	8.402%	Colonial	8.250%	.125	8.402%
Countrywide	8.250%	.500	8.442%	First Union	8.250%	.625	8.455%
Flagstar	8.250%	.500	8.442%	Fleet	8.250%	.375	8.429%
GE	8.250%	.125	8.402%	HSBC	8.250%	.875	8.482%
National City	8.250%	.250	8.415%	Norwest	8.250%	.125	8.402%
PNC	8.250%	.375	8.429%	Provident	8.250%	.250	8.415%
RBMG	8.250%	.375	8.429%				

Choose a lender: OnePipeline.com

Cancel

Next

All materials herein are copyrighted. It is intended only for private use by a select few of our employees and only available for a limited, experimental application.

004230 27254560

Figure 13

OnePipeline.com - Loan Shopper - Netscape

Need to ask a question? [Click here for help.](#) **Personalize My Loan**

*\*Shopping for a mortgage has never been so convenient.\**

**Instructions:** Please answer a few questions on the following pages and we will find a loan that best fits your requirements and situation. The highlighted fields (\*\*) are required.

Please enter the primary borrower's name

First Name:  Last Name:

How many borrowers will be part of this loan?  \*\*

What is the purpose of this loan?

Purchase \*\*

Figure 14

OnePipeline.com - Loan Shopper - Microsoft Internet Explorer provided by Millennial Star Network, Inc.

Need to ask a question? Click here for help.

**Property Information** Loan Shopper

Property Information Lender Consultation Self-Assessment Financial Information Loan Prefs Results

**Instructions:** Complete the following information about the property you intend to buy. The highlighted fields (\*\*) are required. Enter numbers without commas. (100000 not 100,000).

Page 1 of 5

Loan number: 129775 Loan Originator: Joe Realtor Borrower: Frank Schmuk  
Total Borrowers: 1 Loan Purpose: Purchase

Approximate price of home (if refinance, enter market value of home)  
\$ 15000 \*\*

Subject property address (leave blank if not known)  
1234 Any Street

Subject property city  
Any Towne

Subject property State and Zip  
AK

Number of units  
1

Occupancy Type  
Owner Occupied \*\*

Property Type  
Single Family Detached \*\*

Building Status  
Existing

If a condo or PUD - what are estimated HOA fees/month?  
\$ 0 \*\*

Cancel Go Forward

"Relax. Once you've found the home, the hard part is over."



Cancel

Cancel

Go Forward

0042807254960545317082400

Figure 15.


OnePipeline.com Loan Shopper - Microsoft Internet Explorer provided by Millennium Star Network, Inc.

Need to ask a question? Click here for help.


**Self-Assessment** Loan Shopper

Property Information Lender Consultation **Self-Assessment** Financial Information Loan Profs Results

"Just a few more questions and we're ready to apply for the loan."



09645217-082400



**Instructions:** You are required to answer all questions on this page to assess your credit situation. If any of the questions are answered 'yes' you may want to go to the [Credit Repair Kit](#).

Page 3 of 5

---


Loan number: 129775    Loan Originator: Joe Realtor    Borrower: Frank Schmutk  
Total Borrowers: 1    Loan Purpose: Purchase

---


Have you declared bankruptcy in the last 7 years?

☐ yes ☐ no

if so what kind of bankruptcy was filed?



if yes, what year and month was the bankruptcy filed?

Year:  Month:  


was bankruptcy due to financial mismanagement?

☐ yes ☐ no

Have you had a home foreclosed or given a deed in lieu in the last 7 years?

☐ yes ☐ no


if yes, what year?

Year:  Month:  


Do you have any outstanding liens or judgements?

☐ yes ☐ no


How many times have you been past due on any mortgage in the last 24 months?




How many times have you been past due on any other debt in the last 24 months?




How many times have you been past due on any mortgage in the last 12 months?




How many times have you been past due on any other debt in the last 12 months?



How long do you expect to be in the home?



Citizenship Status



---



 [Go Back](#) [Go Forward](#) 

Figure 16

OnePipeline.com - Loan Shopper - Microsoft Internet Explorer provided by Millennium Star Network, Inc.

Need to ask a question? Click here for help.

**Financial Information**

Property Information Lender Consultation Self-Assessment **Financial Information** Loan Profile Results

**Loan Shopper**

Page 4 of 5

"First, let's run through the numbers."

**Instructions:** Getting accurate information regarding your financial situation is very important. The calculators below are to insure that all the correct data is considered. Using the calculators is required. You will not be able to insert information directly into the blank below.

Loan number: 120776 Loan Originator Joe Realtor Borrower: Frank Schmuk  
Total Borrowers: 1 Loan Purpose: Purchase

**Current Housing Expenses & Real Estate Owned**  
\$ 0 \*\*

**Income - Combined Total** **Income type**  
\$ 0 \*\* Standard \*\*

**Debt - Combined Total**  
\$ 0 \*\*

**Asset - Combined Total** **Asset type**  
\$ 0 \*\* Standard \*\*

**Go Back** **Go Forward**

Figure 17

OnePipeline.com - Loan Shopper - Microsoft Internet Explorer provided by Millennium Star Network, Inc.

Need to ask a question? [Click here for help.](#)

**Loan Preferences** **Loan Shopper**

Property Information Lender Consultation Self-Assessment Financial Information **Loan Preferences** Results

**Instructions:** The amortization selected determines the monthly payment (whether it will be the same from month to month, or change periodically). It will also determine the interest rates available. You may return to this page and select other options to compare loan results.

Loan number: 129775 Loan Originator: Joe Realtor Borrower: Frank Schmuk  
Total Borrowers: 1 Loan Purpose: Purchase

**Amortization** (choose all that apply) \*\*  
We recommend you start with Fixed Products if you expect to live in your home for more than five years

☒ Fixed ☐ ARM ☐ Balloon ☐ All

**Rate vs. Points** \*\*  
Points (also called discount points) are fees (1% of the loan amount) paid up-front to the lender to lower the interest rate (e.g. two points on a \$100,000 loan would cost \$2,000). A rule of thumb is one point will decrease the interest rate by .25%

☒ Prefer lowest available interest rate without paying points  
☐ Prefer to lower the rate by paying points

Points you are willing to pay.

What Percentage of the home value do you wish to borrow?

% \*\* (This value is calculated based on your total assets and the purchase price of the home)

What's the estimated close date for this loan?

\*\*

[Go Back](#) [Go Forward](#)

"The OnePipeline.com system is about having a choice."

0042301025400

Page 5 of 5

Cancel



Figure 18

OnePipeline.com - Loan Shopper - Microsoft Internet Explorer provided by: Millennium Star Network, Inc.

Need to ask question? [Click here for help.](#)

**Loan Products**

**Loan Shopper**

Property Information Lender Consultation Self-Assessment Financial Information Loan Preferences Results

**Instructions:** The following are the loan programs that fit the criteria you entered on the previous pages. Please click on the loan program title that best meets your needs.

Loan number: 129775 Loan Originator: Joe Realtor Borrower: Frank Schmuk  
Total Borrowers: 1 Loan Purpose: Purchase

Loan Product	Rate	Points	APR	Monthly Payment	Down Payment	Loan Amount
<u>15 Year Fixed Rate, Expanded Credit, Full Documentation</u>						
	8.625%	-0.750	10.137%	\$137.00	\$1,500.00	\$13,500.00
<u>Sub-Prime, 15 Year Fixed Rate, Full Documentation</u>						
	11.300%	0.000	12.721%	\$156.00	\$1,500.00	\$13,500.00
<u>15 Year Fixed Rate, 103% LTV</u>						
	14.000%	0.000	15.218%	\$190.00	\$1,500.00	\$13,500.00
<u>3% Down, 30 Year Fixed Rate</u>						
	8.875%	1.875	10.496%	\$113.00	\$1,500.00	\$13,500.00
<u>3% Down, 30 Year Fixed Rate</u>						
	8.875%	1.875	10.496%	\$113.00	\$1,500.00	\$13,500.00
<u>30 Year Fixed Rate, Expanded Credit, Full Documentation</u>						
	8.625%	-0.750	9.902%	\$111.00	\$1,500.00	\$13,500.00
<u>30 Year Fixed Rate, Expanded Credit, Full Documentation - Jumbo</u>						
	8.750%	-0.125	10.113%	\$112.00	\$1,500.00	\$13,500.00
<u>30 Year Fixed Rate, 103% LTV</u>						
	9.000%	-0.500	9.627%	\$120.00	\$1,500.00	\$13,500.00

[Go Back](#)

004280-2704960

"Please take a minute to review all the options."



[Cancel](#)

Figure 19

OnePipeline.com - Loan Shopper - Microsoft Internet Explorer provided by Millennium Star Network, Inc.

Need to ask a question?	Click here for help.	<b>Estimated Costs</b>					<b>Loan Shopper</b>		
		Property Information	Lender Consultation	Self-Assessment	Financial Information	Loan Pref.	Results		

"The estimate gives you a good idea of what you can expect."



**Instructions:** Here is an overview of the loan product and an estimate of costs. Click the 'apply' button to apply for this loan.

Loan number: 129775	Loan Originator: Joe Realtor	Borrower: Frank Schmuk
Total Borrowers: 1	Loan Purpose: Purchase	

**Loan Program Selected:**  
**15 Year Fixed Rate, Expanded Credit, Full Documentation**

TERMS	PAYMENT
Loan Amount: \$13,500.00	Principal & Interest: \$134.00
Down Payment: \$1,500.00	Taxes & Insurance: \$17.00
Rate: 8.625%	Mortgage Ins: \$3.00
Points: -0.750	Total Monthly Payment: \$154.25

Cancel

**TOTAL ESTIMATED CLOSING COSTS**

Origination Fee (HUD #801)	\$135.00
Points Paid/Discount	(\$101.25)
Appraisal Fee (HUD #803)	\$350.00
Underwriting Fee (HUD #812)	\$395.00
Administration Fee (HUD #815)	\$595.00
Settlement or Closing Fee (HUD #1101)	\$200.00
Title Insurance (HUD #1108)	\$250.00
Recording/Filing Fees (HUD #1201)	\$36.00
Survey (HUD #1301)	\$250.00
Per diem interest (HUD #901) 15 days @ \$3.19	\$47.85
<b>Total:</b>	<b>\$2,157.60</b>


Go Back

Apply

Figure 20

OnePipeline.com - Loan Shopper - Microsoft Internet Explorer provided by Millennial Star Network, Inc.

Need to ask a question? Click here for help.	Step 1 Completion					Loan Shopper
	Property Information	Lender Consultation	Self-Assessment	Financial Information	Loan Prefs	Results

"Doesn't it feel good to have more control of the loan process?"
 

Loan number: 129775      Loan Originator: Joe Realtor      Borrower: Frank Schmuk  
 Total Borrowers: 1      Loan Purpose: Purchase

---

**You've completed Step 1 of our 5 step process.**

As part of the program requirements, you have:

- explained the loan process,
- reviewed lenders,
- helped your borrowers make a decision,
- consulted on income and debt information,
- completed the prequalification process.

Based on the information and preferences you have selected a loan that best meets your borrowers criteria. Go on to Step 2, complete the eXpress Application and submit the loan for underwriting. Step 2 - eXpress Application gives you a pre-approval that will be reviewed by underwriting.

**Selected loan product from Step 1 - Loan Shopper:**

**15 Year Fixed Rate, Expanded Credit, Full Documentation**

004230" / 032400

Figure 21

https://onesystem.onepipeline.com/LOGS.nsf/all/244FE7A4D66A8BBA6725093E0062FFFD?E&Document - Microsoft Internet Explorer

Need to ask a question?	Click here for help.	<b>Disclosures</b>	<b>eXpress Application</b>
Disclosures: Get Started Loan Property Borrower Financial Declarations Approved Products Origination Request Results			

"Remember, you can always click the links above for help."



Save

Delete

**Instructions:** You are required to have the 'Authorization to Verify Information' and 'Business Disclosure Statement' forms signed in order to proceed. Original or facsimile of these forms must be received by OnePipeline.com before underwriting can be done. Please acknowledge you have completed this task by pressing the "GO FORWARD" button at the bottom of the page.

Page  
**1 of 9**

Loan number: 129775	Loan Originator: Joe Realtor	Borrower: Frank Schmuk
Total Borrowers: 1	Loan Purpose: Purchase	

If you don't have hardcopy versions of these forms available, please download this one file to your computer and print them using Adobe Acrobat Reader. [Click here for your free copy of Adobe Acrobat Reader](#)



Disclosures.pdf

**Has your borrower signed the Authorization and Disclosure forms?**

By clicking "Go Forward" you acknowledge you have completed this important program requirement and are ready to complete the eXpress Application. After you submit the loan, please fax these forms to OnePipeline.com toll-free 1-877-695-6900.

[Go Forward](#)

Figure 22

https://onesystem.onepipeline.com/LO5.nsf/0/244fe7a4d58a0b5a0725693e0062fffd?EditDocument&Seq=1 - Microsoft Internet Explorer

Need to ask a question? [Click here for help.](#)

**Getting Started** **eXpress Application**

[Disclosures](#) [Get Started](#) [Loan](#) [Property](#) [Borrower](#) [Financial](#) [Declarations](#) [Approved Products](#) [Origination Request](#) [Results](#)

"Okay. Let's get going and apply for the loan."

**Instructions:** Please enter or confirm the following information for the Primary Borrower. The information that you provide on the following few pages will be used to pull your credit report. All fields on all pages are required.

Page  
**2 of 9**

Loan number: 129775    Loan Originator: Joe Realtor    Borrower: Frank Schmuk  
Total Borrowers: 1    Loan Purpose: Purchase

**Primary Borrower**

First Name  \*\*

Last Name  \*\*

Middle Initial

Age  \*\*

Social Security  \*\*

Marital Status ☐ Married ☒ Single \*\*

Married to (which co-borrower)  \*\*

Number of Dependents  \*\*

Ages of Dependents (separate with commas)  \*\*

[Go Back](#)

[Go Forward](#)



004280725960

Save

Delete

004280725960

Figure 23

https://onesystem.onepipeline.com/LOS.nsf/0/485a054a2a27abdb8725893e006357147?EditDocument&Seq=3 - Microsoft Internet Exp

Need to ask a question? Click here for help.

**Getting Started** eXpress Application

Disclosures Get Started Loan Property Borrower Financial Declarations Approved Products Origination Request Results

"Okay. Let's get going and apply for the loan."

**Instructions:** Please enter or confirm the following information concerning the Primary Borrower's current residence.

Page 3 of 9

Loan number: 120775 Loan Originator: Joe Realtor Borrower: Frank Schmuk  
Total Borrowers: 1 Loan Purpose: Purchase

**Frank Schmuk**

Current Street Address 1234 Any Street \*\*

Current City Any Towne \*\*

Current State, Zip AK 12345 \*\*

Own/Rent ☒ Own ☐ Rent\*\*

Length of time at this address Years 10 \*\* Months 0 \*\*

**If less than 2 years complete the following information**

Previous address 1 (include city, state, zip) \_\_\_\_\_

Own/Rent ☒ Own ☐ Rent

Length of time at this address Years \_\_\_\_\_ Months \_\_\_\_\_

Previous address 2 (include city, state, zip) \_\_\_\_\_

Own/Rent ☒ Own ☐ Rent

Length of time at this address Years \_\_\_\_\_ Months \_\_\_\_\_

**Go Back** **Go Forward**

Figure 24

https://onesystem.onepipeline.com/LOS.nsf/all/4B9A064E0AA7A808B725693E006357F4?EditDocument=Microsoft Internet Explorer p

Need to ask a question?	Click here for help.	<b>Loan Information</b>	<b>eXpress Application</b>
		Disclosures Get Started Loan Property Borrower Financial Declarations Approved Products Origination Request Results	

"By making the process simple, we made it easy."



**Instructions:** Please complete the following information concerning the specifics of the loan. You must enter a down payment amount or the percentage of the property price available for down payment.

Page  
**4 of 9**

Loan number: 120775	Loan Originator: Joe Realtor	Borrower: Frank Schmuk
Total Borrowers: 1	Loan Purpose: Purchase	

Estimated Property Value \$  \*\*

Purchase Price of Property \$  \*\*

My down payment will be \$  \*\*

or this percentage of the property price  % \*\*

Loan Amount Requested \$  \*\*

Has a purchase agreement been accepted? ☒ Yes ☐ No

if yes when does it expire?

Go Back

Go Forward

00640077002400

Save

Delete

Figure 25

https://enesystem.onepipeline.com/105.nsf/0/4b2a054e6a07a51b0725693e00535714?Ed:Document&Seq=1 - Microsoft Internet Exp

Need to ask question?	Click here for help.	<b>Property Information</b>	<b>eXpress Application</b>
		Disclosures	Get Started
		Loan	Property
		Borrower	Financial
		Declarations	Approved Products
		Origination Request	Results

"In just a minute we'll be ready to submit the application."

**Instructions:** Please enter or confirm the information regarding the subject property. Change or complete as required.

Page  
**5 of 9**

Loan number: 129775	Loan Originator: Joe Realtor	Borrower: Frank Schmuk
Total Borrowers: 1	Loan Purpose: Purchase	

What state are you buying the property in?

\*\*

Subject property address (leave blank if not known)

Subject property city

Subject property zip

Number of units

\*\*

Occupancy Type

\*\*

How long do you expect to be in the home?

Property Type

\*\*

Building Status

If a condo or PUD - what are estimated HOA fees/month?

\$

**1** [Go Back](#)

[Go Forward](#) **10**



Save  
Delete



Need to ask a question?

Click here for help.

Borrower Information

eXpress Application

Disclosures Get Started Loan Property Borrower Financial Declarations Approved Products Origination Request Results

"Now real estate agents can do more for their clients."



**Instructions:** Please complete the following information concerning the Primary Borrower's employment history. Previous employment is required if current employment is less than two years. All fields are required.

Page 6 of 9

Loan number: 129775    Loan Originator: Joe Realtor    Borrower: Frank Schmuk  
Total Borrowers: 1    Loan Purpose: Purchase

Standard Employee ☒

If self-employed, what % of business do you own?

Home Phone

Work Phone

Email Address

Yrs School

Employer

Employer Phone Number

Employer Address, City, State, Zip

Position

Type of Work

How Long?

Yrs.  Mos.

Years in Profession

Yrs.  Mos.

Previous Employer including Address, City, etc (if less than 2 years)

Figure 26

d

Figure 27

https://onesystem.onepipeline.com/LOS.nsf/0/4b9a064e8aa7abdb8725593e0063674?EditDocument&Seq=1 - Microsoft Internet Exp

Need to ask  
a question?

Click here  
for help.

## Financial Information

## eXpress Application

Disclosures Get Started Loan Property Borrower Financial Declarations Approved Products Origination Request Results

"Need to make a  
change? Just click  
the calculator."

**Instructions:** Please review and complete/confirm the following  
information concerning all of the borrowers' financial data. If you need  
to change the information, click on the calculator buttons for the  
worksheets.

Page  
**7 of 9**

Loan number: 129775    Loan Originator: Joe Realtor    Borrower: Frank Schmuk  
Total Borrowers: 1    Loan Purpose: Purchase

### Current Housing Expenses & Real Estate Owned

\$  \*\*

### Income - Combined Total

\$  \*\*

### Income type

\*\*

### Debt - Combined Total

\$  \*\*

### Asset - Combined Total

\$  \*\*

### Asset type

\*\*

 [Go Back](#)

[Go Forward](#) 

054217 092400

Save

Delete

"Now a few simple questions to finalize the application."

**Instructions:** Please answer ALL of these questions. If you answer 'yes' to any questions "a" through "i", please explain in the field below.

Loan number: 120775	Loan Originator: Joe Realtor	Borrower: Frank Schmuk
Total Borrowers: 1	Loan Purpose: Purchase	



Save

Delete

00445217.002400

- |   | Borrower  |
|---|---|
| a. Are there any outstanding judgements against you?  | <input type="radio"/> yes <input checked="" type="radio"/> no |
| b. Have you been declared bankrupt within the past 7 years?   | <input type="radio"/> yes <input checked="" type="radio"/> no |
| c. Have you had property foreclosed upon or given title or deed in lieu thereof in the last 7 years?  | <input type="radio"/> yes <input checked="" type="radio"/> no |
| d. Are you a party to a lawsuit?  | <input type="radio"/> yes <input checked="" type="radio"/> no |
| e. Have you directly or indirectly been obligated on any loan which resulted in foreclosure, transfer of title in lieu of foreclosure of judgement? | <input type="radio"/> yes <input checked="" type="radio"/> no |
| f. Are you presently delinquent or in default on any Federal debt or other loan, mortgage, financial obligation, bond or loan guarantee?            | <input type="radio"/> yes <input checked="" type="radio"/> no |
| g. Are you obligated to pay alimony, child support, or separate maintenance?  | <input type="radio"/> yes <input checked="" type="radio"/> no |
| h. Is any part of the down payment borrowed?  | <input type="radio"/> yes <input checked="" type="radio"/> no |
| i. Are you a co-maker or endorser on a note?  | <input type="radio"/> yes <input checked="" type="radio"/> no |

Please explain any "yes" answers in questions "a" through "i":

- |   |   |
|---|---|
| j. Are you a US citizen?  | <input type="radio"/> yes <input checked="" type="radio"/> no |
| k. If not, are you a permanent resident alien?  | <input type="radio"/> yes <input checked="" type="radio"/> no |
| l. Do you intend to occupy the property as your primary residence? (if "yes", complete "m" below) | <input type="radio"/> yes <input checked="" type="radio"/> no |
| m. Have you had ownership interest in property in the last three years?                           | <input type="radio"/> yes <input checked="" type="radio"/> no |

(1) What type of property did you own?

Property 1

Property 2

Property 3


(2) How do you hold title to the home?

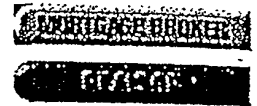
Property 1

Figure 28

<https://oncsystem.onepipeline.com/LDS.nst/all/489A064E8AA7ABDB8725693E0D63657F47EditDocument> - Microsoft Internet Explorer p

Disclosures Get Started Loan Property Borrower Financial Declarations Approved Products Origination Request Results

 [Go Back](#)



About Us | Profiles | Investors | Press | Careers | Legal | Site Map | Contact Us !!!

Welcome, Joe Realtor

Task List

Main Menu

Start A New Loan

Check Loan Status

004280" 4T 254960

task description	assigned to
892827 - Ben Franklin: Order acceptable commitment for title insurance.	Joe Realtor
892827 - Ben Franklin: Order acceptable hazard insurance coverage with cor	Joe Realtor
892827 - Ben Franklin: Obtain signed 1003_Good Faith Estimate_Truth in L	Joe Realtor
892827 - Ben Franklin: Order flood certification with applicable coverage.	Joe Realtor
892827 - Ben Franklin: Obtain signed copy of Credit Authorization and Busi	Joe Realtor
892827 - Ben Franklin: Schedule Closing	Joe Realtor
718330 - Nikki Bennett: Obtain signed copy of Credit Authorization and Bus	Joe Realtor
718330 - Nikki Bennett: Obtain signed 1003_Good Faith Estimate_Truth in	Joe Realtor
718330 - Nikki Bennett: Provide regular Borrower updates	Joe Realtor
718330 - Nikki Bennett: Obtain ### months most recent (consecutive) bank s	Joe Realtor
693954 - Tom Thumb: Provide regular Borrower updates	Joe Realtor
693954 - Tom Thumb: Your assigned processing center is:	Joe Realtor

privacy policy

Figure 30

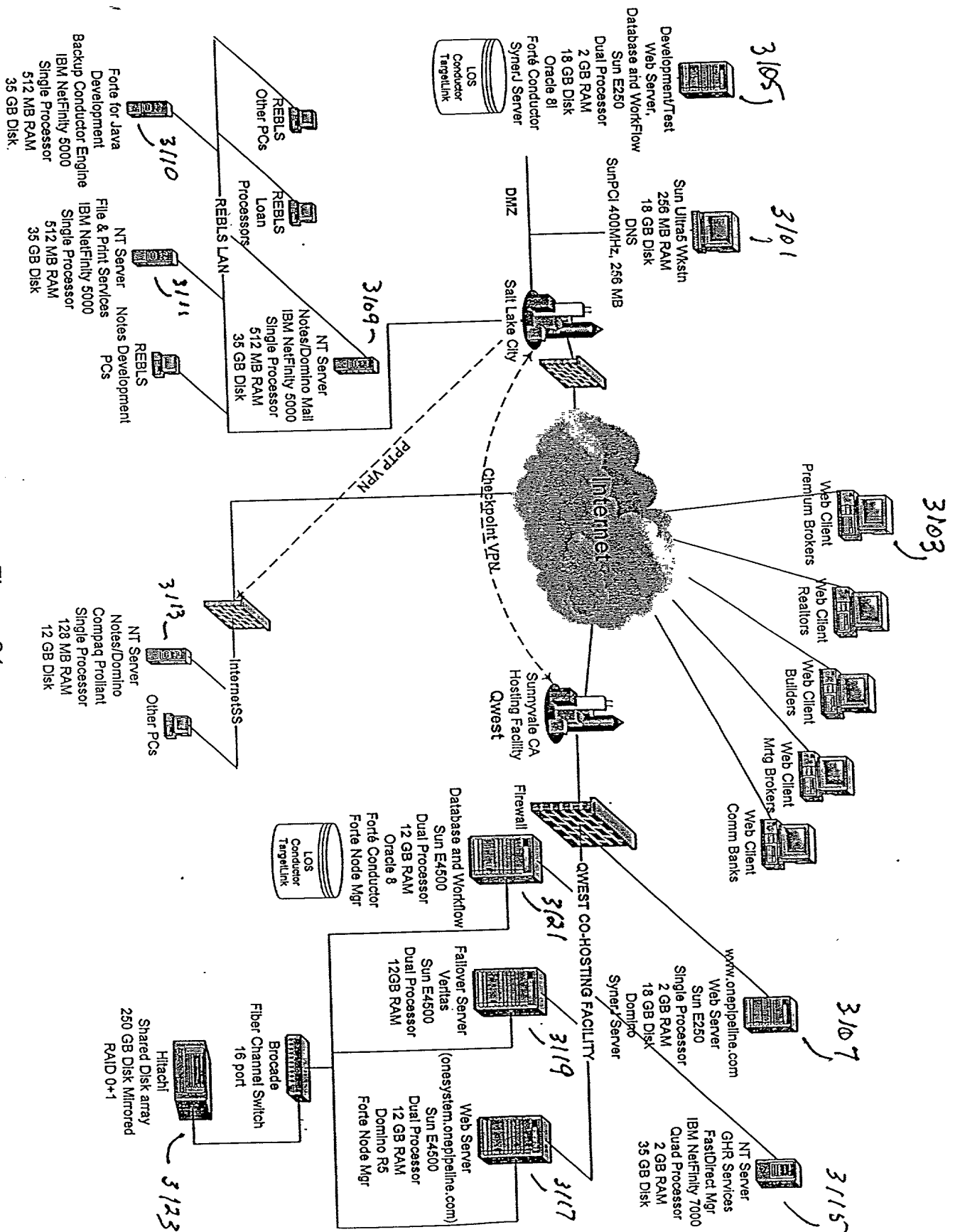


Figure 31

09645217 a 082400

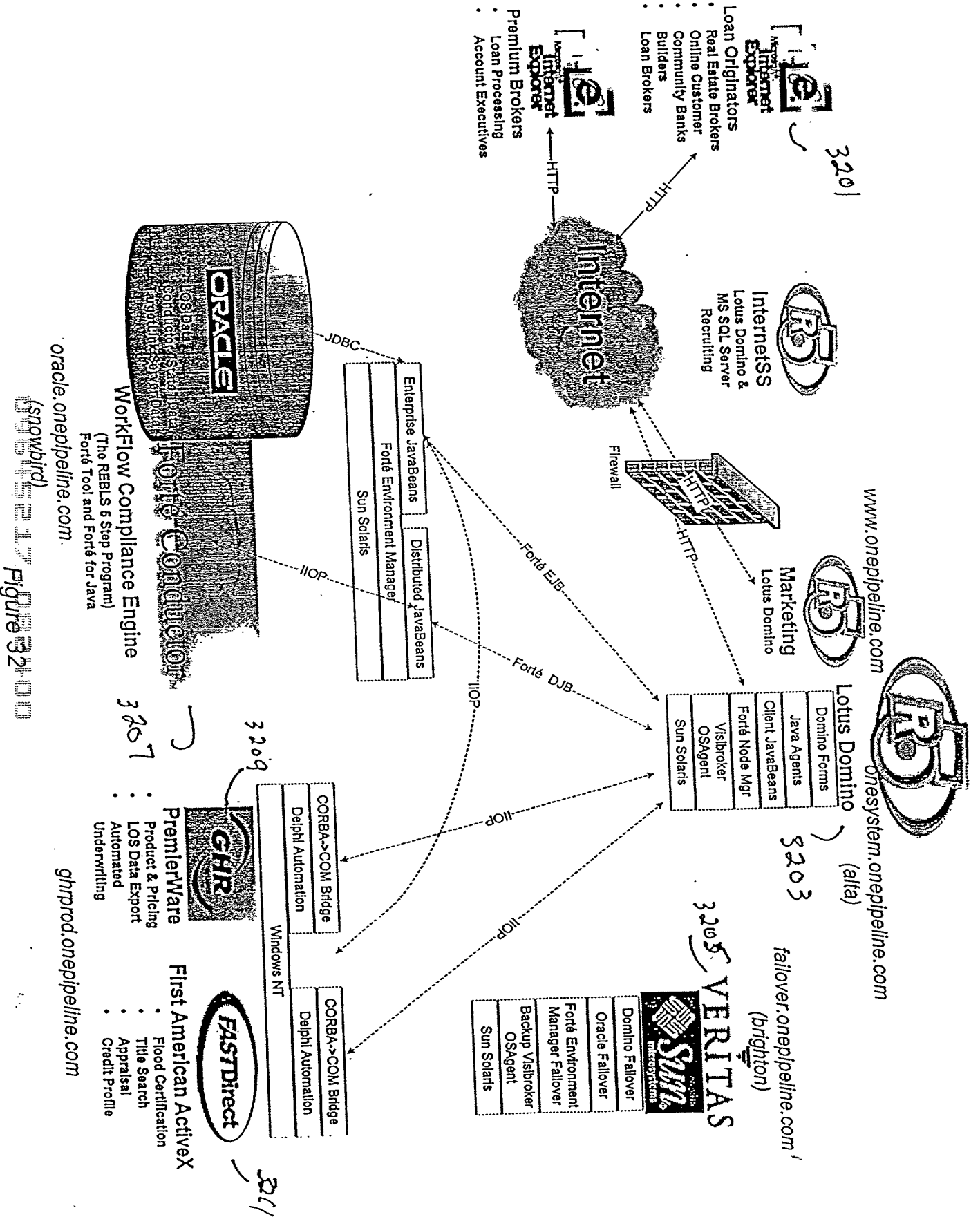


Figure 3200

# INPUT GATEWAY

3400

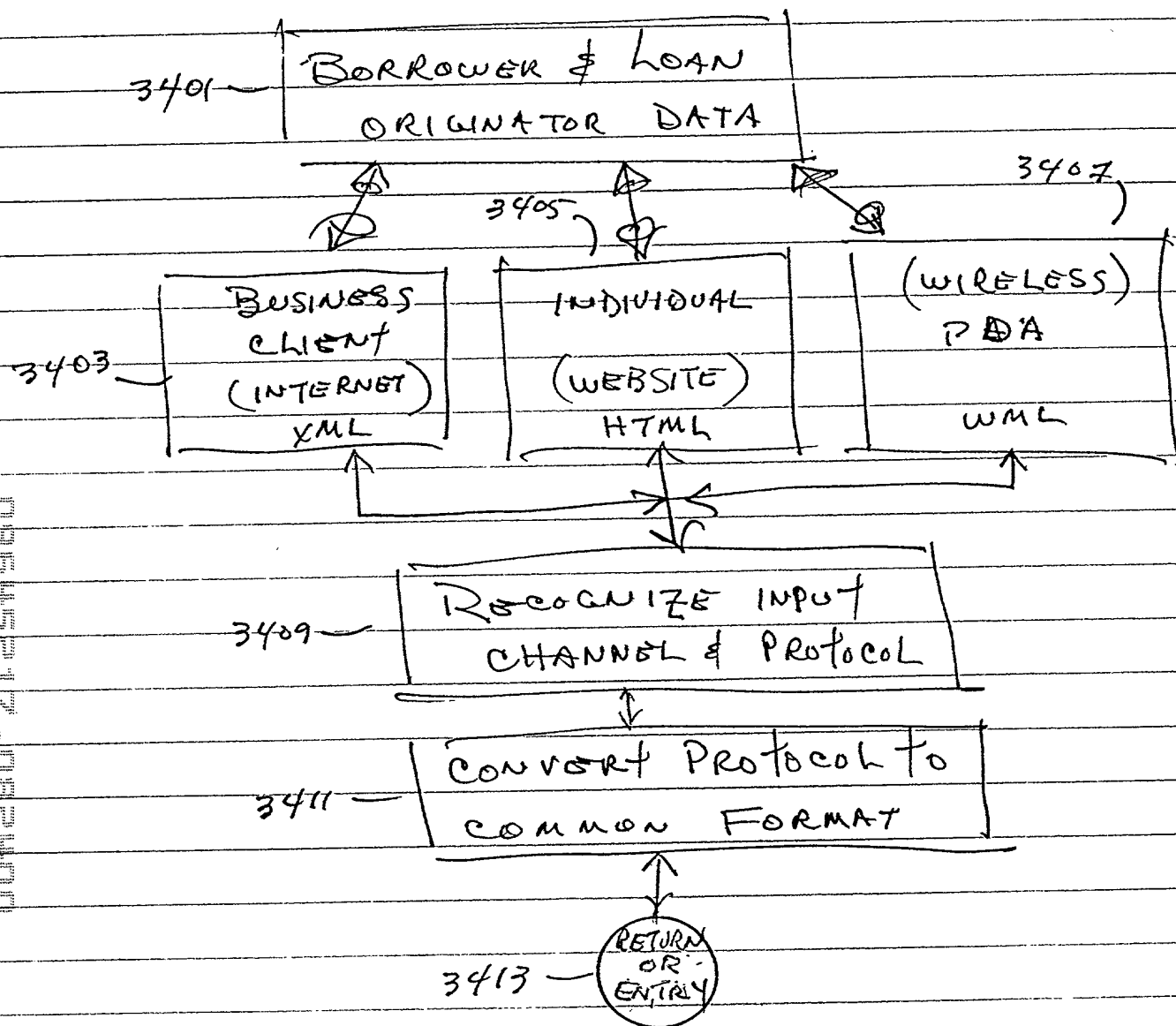


Figure 33



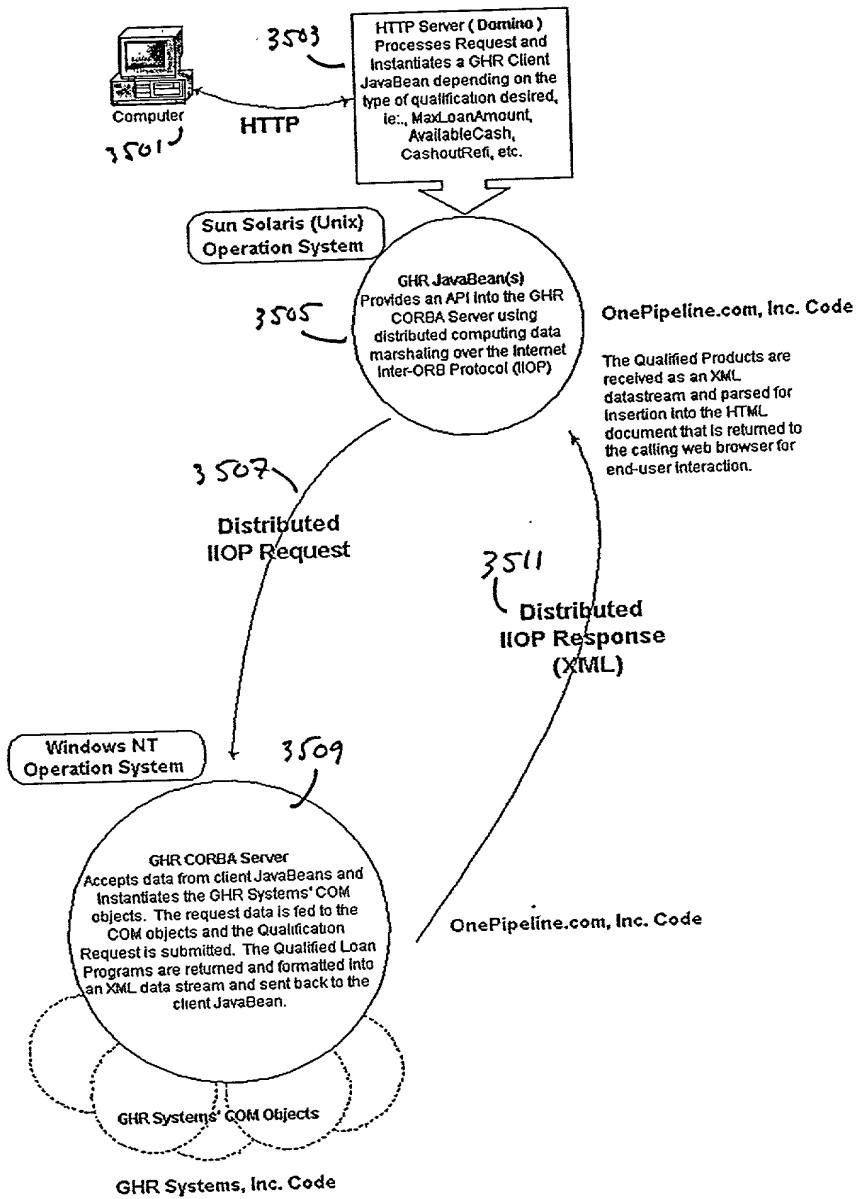


Figure 34

Figure 35

4200

# TASK Maintenance & Status Reporting Gateway

004280 72254960

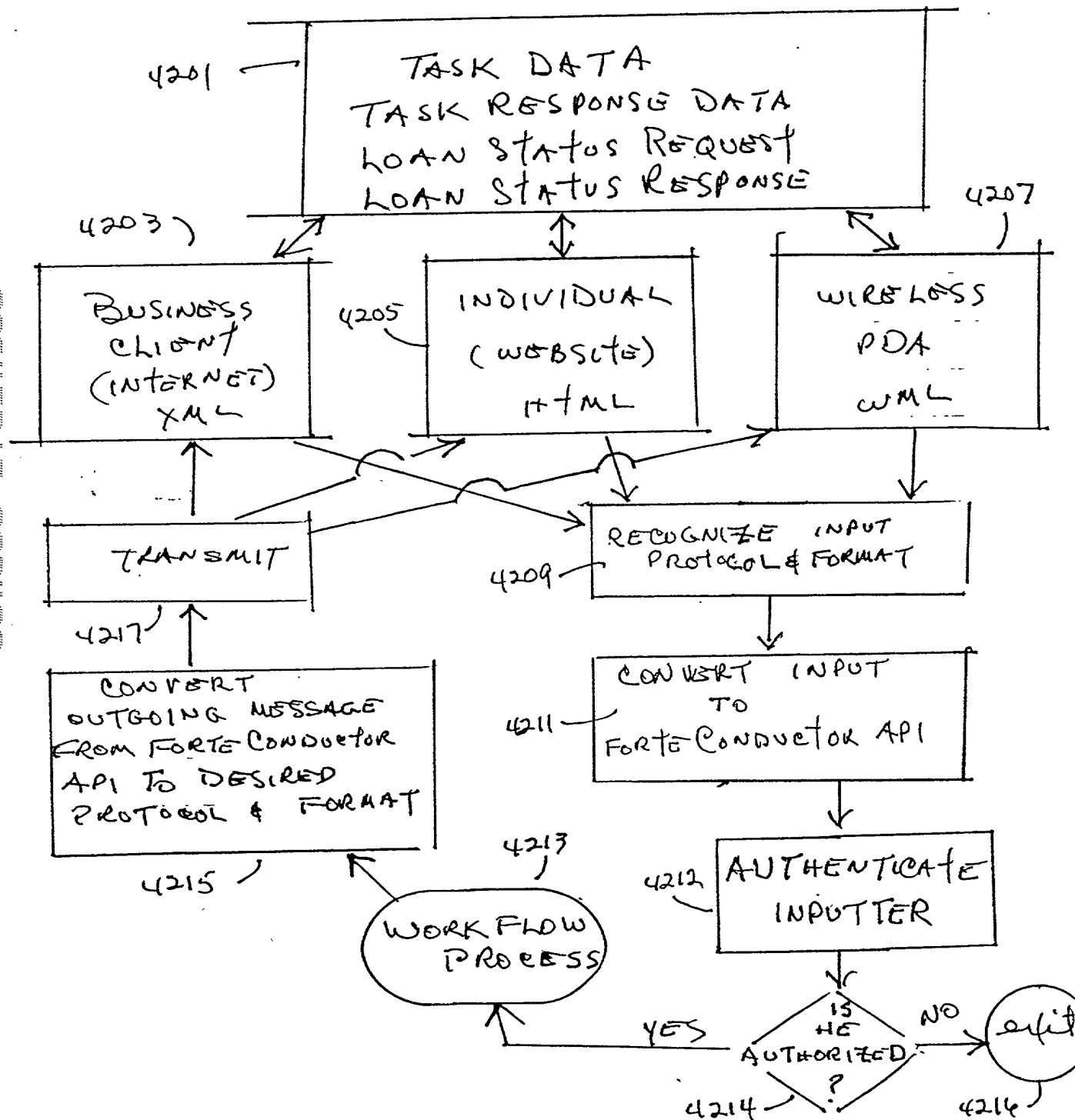


Figure 36

4400

# TRANSACTION SERVICE PROVIDER GATEWAY

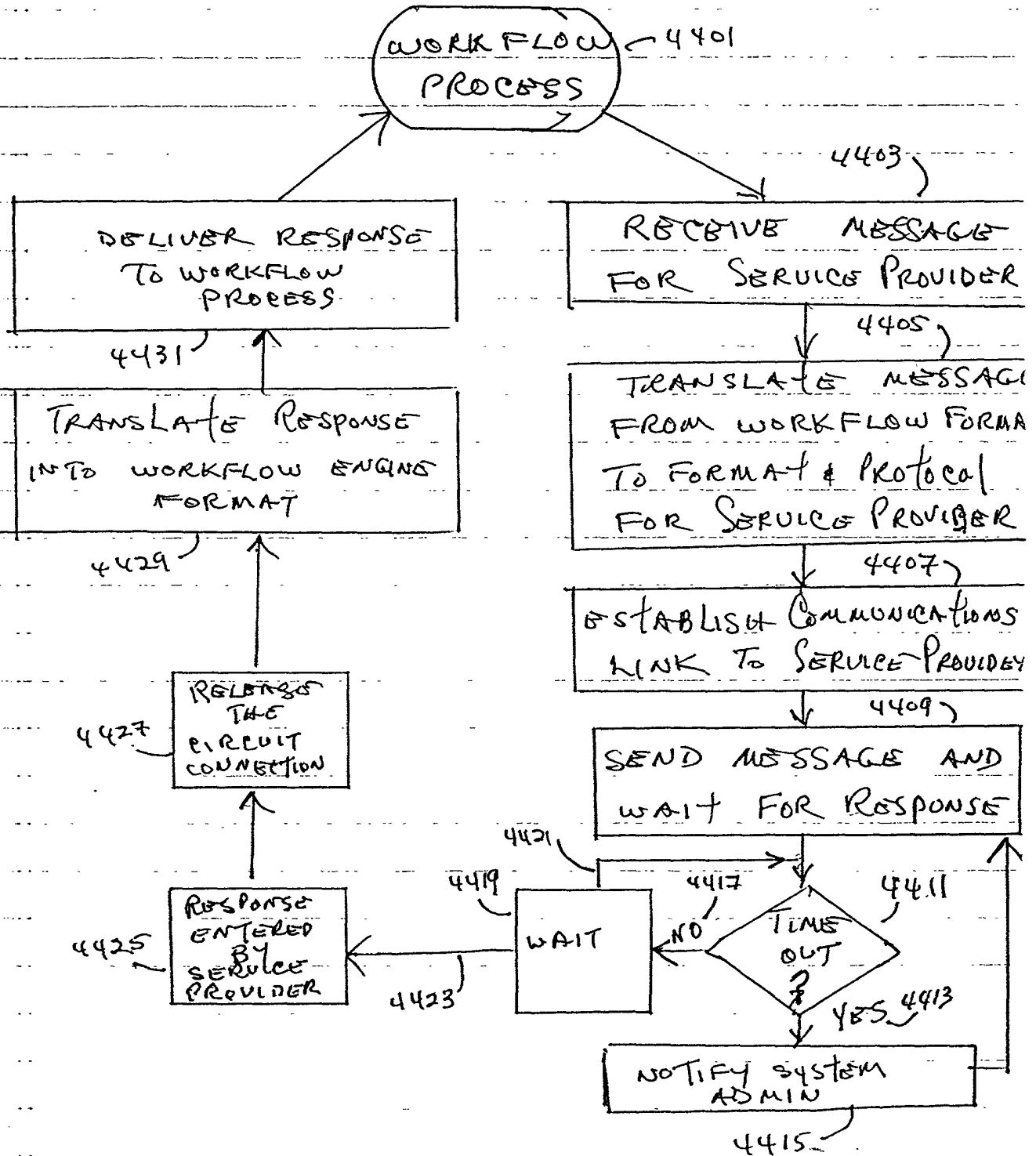


Figure 37

https://onesystem.onepipeline.com/LOS.nsf/allLoansWeb/4B9A064E8AA7A9D88725693E006367F4 Microsoft Internet Explorer

ask  
ion?

Click here  
for help.

**Loan Origination Request**

**eXpress Application**

Disclosures Get Started Loan Property Borrower Financial Declarations Approved Products Origination Request Results

"Congratulations.  
We'll get back  
to you within  
24 hours."

RESPA guidelines require that the Loan Originator must, at a minimum, complete the tasks outlined under Step 1 and 2 of the OnePipeline Automated Compliance System in order to earn any portion of the loan origination fee. To earn the FULL loan origination fee, a Loan Originator must also complete all the tasks outlined under Step 4 and 5. Further, if the Loan Originator does not complete all the tasks within a selected Step in the designated time frame, that portion of the loan origination fee associated with that entire step will be paid to the party completing the tasks. This rule is designed to insure that OnePipeline loan originators meet or exceed the minimum threshold work requirements of RESPA for earning any compensation.

**Instructions:**

- 1) Authorize the loan origination fee, by entering a percentage in the space provided below
- 2) Select any of the unassigned the Steps that you, as Loan Originator, would like to complete.
- 3) Assign any remaining Steps to your Real Estate Broker or Mortgage Broker

I authorize a loan origination fee of  % and request a loan for \$13500.

Loan number: 129775	Loan Originator: Joe Realtor	Borrower: Frank Schmuk
Total Borrowers: 1	Loan Purpose: Purchase	

**Step 1: Consultation and Pre-Qualification**  
**15% of loan origination fee**

**Task**

- Coordinate marketing and advertising for potential borrowers
  - Review and explain entire loan process to borrower
  - Review and explain Pre-Qualification process with borrower
  - Complete online Pre-Qualification process with borrower
    - Compare lenders for 30 year fixed rate loans
    - Select a preferred lender or interest rate
    - Assess borrower's credit situation
    - Offer credit repair information and advice
    - Assess current financial situation, including income/debt ratios, assets, and current housing situation
    - Review and explain the different loan programs available based on the borrower's situation
    - Determine the specific loan program best suited for the borrower based on the type of loan, cost of loan, interest rate and loan to value percentages
- Review and explain the estimate of costs of the loan
- ☒ Loan Originator

Figure 38

**Step 2: Loan Application**  
**20% of loan origination fee**

**Task**

- Collect basic financial information from borrower
- Review and explain the Authorization to Verify Information to the borrower
- Have the borrower sign the Authorization to Verify Information
- Review and explain the Business Disclosure Statement to the borrower
- Have the borrower sign the Business Disclosure Statement
- Complete the online Loan Application
  - Estimate property value of new property purchase
  - Determining down payment and loan to value for the new property purchase
  - Review new property purchase information and status
  - Review and correct current financial situation from Pre-Qualification
  - Collect borrower information including declarations
- Determine loan origination fee
- Select any of the unassigned Steps that you, as the loan originator, want to complete. Assign remaining Steps to your Real Estate Broker or Mortgage Broker as appropriate.
- Schedule closing with borrower
- Order Title Report
- Order Appraisal

Loan Originator

09645217-092400

Figure 39

**Step 3: Loan Review and Administrative Tasks**  
**15% of loan origination fee**

**Task**

- Provide quality control for and file/store copies of Authorization to Verify Form, Business Disclosure Form, Good Faith Estimate, Truth In Lending Statement and other disclosures
- Review loan file for accuracy with the borrower
- Review and explain underwriting process and conditions with borrower
  - Review and explain underwriting process with borrower
  - Review and explain the financial information needed from the borrower
  - Review and explain the reason for the Homeowner's Insurance Binder with the borrower
  - Review and explain the reason for Title Report to the borrower
  - Review and explain the reason for the Appraisal to the borrower
  - Review and explain the reason for Flood Certification to the borrower
  - Review and explain the reason for the Survey (as required)
- Review of the underwriting conditions
- Submit file for underwriting approval

- Ⓒ Loan Originator
- Ⓒ Real Estate Broker
- Ⓒ Mortgage Processing Center

004230 27294960

Figure 40

**Step 4: Borrower Updates and Loan Processing**  
**35% of loan origination fee**

**Task**

- Review and explain underwriting decision with borrower
  - Review and explain other closing conditions to the borrower
    - Review and explain the Good Faith Estimate with borrower
    - Review and explain the Truth in Lending statement with borrower
    - Review and explain other federal and state disclosures with borrower
  - Get borrower's signature on documents
  - Collect the mandatory conditions from the borrower
    - Collect the income information (paystubs, W2 and tax records as required)
    - Collect the bank statements from the borrower
    - Collect the Insurance Binder information
  - Forward all conditions to processing
  - Review and explain the results of the Title Report
  - Review and explain the results of the Appraisal
  - Review and explain the results of the Flood Certification
  - Provide regular status updates to the borrower
  - Order the Flood Certification
  - Order the Survey (as required)
- ☑ Loan Originator  
☐ Real Estate Broker  
☐ Mortgage Processing Center

**Step 5: Closing**  
**15% of loan origination fee**

**Task**

- Review and authorize the Clear to Close document from processing
  - Lock the interest rate for the loan
  - Coordinate closing with borrower and title company.
  - Attend closing
- ☑ Loan Originator  
☐ Real Estate Broker  
☐ Mortgage Processing Center

---

 [Go Back](#)

[Go Forward](#) 

https://onesystem.onepipeline.com/LOS.nsf/tasklist - Microsoft Internet Explorer provided by Millennium Star Network, Inc.

Back Forward Stop Home Search Favorites History Links Help

https://onesystem.onepipeline.com/LOS.nsf/tasklist

Need to ask a question? Click here for help. Task List

Change to View By Borrower

**Task Description**

**Step #2**

- 717178 - Brad Sullivan: Order acceptable commitment for title insurance.
- 717178 - Brad Sullivan: Order acceptable appraisal for no less than \$1250

**Assigned To**

- Joe Realtor
- Joe Realtor

**Step #3**

- 125938 - C Lake: Obtain acceptable purchase agreement with all addendums
- 125938 - C Lake: Order acceptable appraisal for no less than \$####.
- 125938 - C Lake: Obtain signed copy of Credit Authorization and Business
- 125938 - C Lake: Obtain #### months most recent (consecutive) bank stateme
- 125938 - C Lake: Obtain acceptable purchase agreement with all addendums
- 125938 - C Lake: Order acceptable commitment for title insurance.
- 125938 - C Lake: Order acceptable appraisal for no less than \$####.
- 125938 - C Lake: Obtain acceptable purchase agreement with all addendums
- 274430 - Brad Sullivan: Order acceptable commitment for title insurance.
- 274430 - Brad Sullivan: Obtain signed 1003, Good Faith Estimate, Truth in
- 274430 - Brad Sullivan: Obtain #### months most recent (consecutive) bank
- 274430 - Brad Sullivan: Obtain acceptable purchase agreement with all add
- 274430 - Brad Sullivan: Order acceptable appraisal for no less than \$####.
- 274430 - Brad Sullivan: Disclose acceptable mortgage insurance certificat
- 274430 - Brad Sullivan: Order acceptable hazard insurance coverage with c
- 274430 - Brad Sullivan: Obtain Verification of Deposit for all accounts I
- 274430 - Brad Sullivan: Obtain acceptable purchase agreement with all add
- 274430 - Brad Sullivan: Order acceptable appraisal for no less than \$####.
- 274430 - Brad Sullivan: Obtain acceptable purchase agreement with all add
- 274430 - Brad Sullivan: Order acceptable appraisal for no less than \$####.
- 274430 - Brad Sullivan: Order acceptable commitment for title insurance.
- 27807 - FAUSTO ARCEO: Obtain signed 1003, Good Faith Estimate, Truth in L
- 27807 - FAUSTO ARCEO: Order acceptable appraisal for no less than \$####.

**Assigned To**

- Joe Realtor
- Joe Realtor
- Joe Realtor
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Return to Main Menu

Figure 41



## DECLARATION FOR UTILITY PATENT APPLICATION

AS A BELOW-NAMED INVENTOR, I HEREBY DECLARE THAT:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled: A METHOD AND APPARATUS FOR A MORTGAGE LOAN ORIGINATOR COMPLIANCE ENGINE, the specification of which is attached hereto unless the following box is checked:

- ☐ was filed on Herewith as United States Application Serial No. or PCT International Application No. Unassigned and was amended on \* (if applicable).

I HEREBY STATE THAT I HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS, AS AMENDED BY ANY AMENDMENT REFERRED TO ABOVE.

I acknowledge the duty to disclose information which is material to the patentability as defined in 37 C.F.R. § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed:

Application No.	Country	Date of Filing (day/month/year)	Priority Claimed?
			<input type="checkbox"/> Yes <input type="checkbox"/> No

I hereby claim benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

Application Serial No.	Filing Date
60/189,635	14 March 2000

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

Application Serial No.	Filing Date	Status
		<input type="checkbox"/> Patented <input type="checkbox"/> Pending <input type="checkbox"/> Abandoned

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

8/22/00  
Date

[Signature]  
Name: David E. BROADBENT  
Residence: Salt Lake City, Utah  
Citizenship: US Citizen  
Post Office Address: 1733 Oak Springs Drive, Salt Lake City, Utah 84108

August 22, 2000  
Date

[Signature]  
Name: Redge L. COOK  
Residence: Sandy, Utah  
Citizenship: US Citizen  
Post Office Address: 8875 Alta Canyon Drive, Sandy, Utah 84093

8/23/2000  
Date

[Signature]  
Name: Paul B. COLEMAN  
Residence: Draper, Utah  
Citizenship: US Citizen  
Post Office Address: 412 E. Thornberry Drive, Draper, Utah 84020

8/23/00  
Date

[Signature]  
Name: William S. HARTEN  
Residence: Woods Cross, Utah  
Citizenship: US Citizen  
Post Office Address: 888 West 2000 South, Woods Cross, Utah 84087

004280 71254360

**CERTIFICATE UNDER 37 C.F.R. § 3.73(b)**

Docket No. 437312000400

In the application of: David F. BROADBENT et al.  
 Serial No.: To Be Assigned  
 Filed: Herewith  
 For: A METHOD AND APPARATUS FOR A MORTGAGE LOAN ORIGINATOR COMPLIANCE ENGINE

OnePipeline.com, a Delaware corporation, certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application identified above for which a **copy thereof is attached.**

OR

B. ☐ A chain of title from the inventor(s) of the patent application identified above, to the current assignee as shown below:

1. From : \*

To: \*

The document was recorded in the Patent and Trademark Office at Reel \*, Frame \*, or for which a copy thereof is attached.

2. From : \*

To: \*

The document was recorded in the Patent and Trademark Office at Reel \*, Frame \*, or for which a copy thereof is attached.

3. From : \*

To: \*

The document was recorded in the Patent and Trademark Office at Reel \*, Frame \*, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

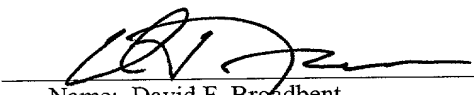
☐ Copies of assignments or other documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: 8/22/00

  
 Name: David F. Broadbent

Title: CEO, President and Chairman of the Board of Directors

# ASSIGNMENT JOINT

# COPY

THIS ASSIGNMENT, by David F. BROADBENT, Redge L. COOK, Paul B. COLEMAN and William S. HARTEN (hereinafter referred to as the assignors), residing at Salt Lake City, Utah, Sandy, Utah, Draper, Utah, and Woods Cross, Utah, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in A METHOD AND APPARATUS FOR A MORTGAGE LOAN ORIGINATOR COMPLIANCE ENGINE, set forth in an application for Letters Patent of the United States, having an oath or declaration executed on even date herewith; and

WHEREAS, OnePipeline.com, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at Old Mill Corporate Center, 6322 South 3000 East, Suite 200, Salt Lake City, Utah 84121 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

8/22/00  
Date

  
David F. BROADBENT

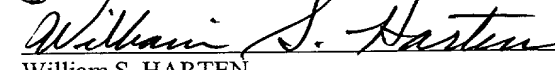
August 22, 2000  
Date

  
Redge L. COOK

8/23/2000  
Date

  
Paul B. COLEMAN

8/22/00  
Date

  
William S. HARTEN

09645217 082400

Applicant/Patentee: David F. BROADBENT et al.

Docket No.: 437312000400

Serial No./Patent No.: To Be Assigned

Filed on/Issued : Herewith

For: A METHOD AND APPARATUS FOR A MORTGAGE LOAN ORIGINATOR COMPLIANCE ENGINE

**VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS  
37 C.F.R. §§ 1.9(f) AND 1.27(c) — SMALL BUSINESS CONCERN**

I hereby declare that I am

- ☐ the owner of the small business concern identified below:  
☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: OnePipeline.com

ADDRESS OF CONCERN: Old Mill Corporate Center, 6322 South 3000 East, Suite 200, Salt Lake City, UT 84121

I hereby declare that the above identified small business concern qualifies as a small business concern as defined in 13 C.F.R. § 121.12, and reproduced in 37 C.F.R. § 1.9(d), for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled A METHOD AND APPARATUS FOR A MORTGAGE LOAN ORIGINATOR COMPLIANCE ENGINE by inventor(s) David F. BROADBENT, Redge L. COOK, Paul B. COLEMAN and William S. HARTEN described in

- ☒ the specification filed herewith with title as listed above.  
☐ the application identified above.  
☐ the patent identified above.

If the rights held by the above identified business concern are not exclusive, each individual, concern or organization having rights in the invention must file separate verified statements averring to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 C.F.R. § 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 C.F.R. § 1.9(d), or a nonprofit organization under 37 C.F.R. § 1.9(e).

Each person, concern or organization having any rights in the invention is listed below:

- ☒ no such person, concern, or organization exists.  
☐ each such person, concern or organization is listed below.

NAME	ADDRESS	TYPE
		<input type="checkbox"/> Individual <input type="checkbox"/> Small Business Concern <input type="checkbox"/> Nonprofit Organization

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 C.F.R. § 1.27)

I acknowledge the duty to file, in this application or patent, notification or any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. § 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING:

David F. Broadbent

TITLE OF PERSON IF OTHER THAN OWNER: Chief Executive Officer, President and Chairman of the Board of Directors

ADDRESS OF PERSON SIGNING: Old Mill Corporate Center, 6322 South 3000 East, Suite 200, Salt Lake City, UT 84121

SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_